

**Streets Element**

**Scottsdale Transportation Master Plan**

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**Prepared for:**

**City of Scottsdale**

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# Streets Element

## 1.0 INTRODUCTION

The Streets Element of the Scottsdale *Transportation Master Plan* contains a summary of existing streets policy and recommended streets policy, as well as new recommendations for context-sensitive modifications to the City's street functional classifications. Ultimately the Streets Element serves to provide consistent information and guidance to provide an efficient street network. Different strategies may be employed, such as building or widening streets, making existing streets work better and applying technology to improve traffic flow. The Streets Element and the Policy Element of the Transportation Master Plan bring overlap and consistent policy guidance regarding a "complete streets" policy, context sensitive design, mode split targets, vehicle miles traveled per capita reduction goals, use of ITS and other policies.

Scottsdale's street network is the primary transportation system and serves a variety of modes and vehicular types, including automobile, truck, transit, bicycles and pedestrians. The street system is largely built out with few major roadways anticipated to be added to the long range plan. This does not mean that all roadways are currently built to their ultimate configuration, however, the existing policy documents provide a good foundation to ensure a logical and efficient street network. The street network is also somewhat constrained in many areas by existing development, as well as by the McDowell Sonoran Preserve which incorporates approximately one-third of Scottsdale's land area. The emphasis in the streets element is to operate the system as safely and efficiently as possible. As the street system ages, additional emphasis will be needed on maintenance and repair of street sections that have reached the end of their expected life.

## 2.0 GOALS

The Vision, Values and Goals component of the *Transportation Master Plan* identifies over-arching goals (based on the *General Plan* Community Mobility Element goals and additional goals regarding sustainability and regional coordination).

- Direct transportation policies, investments and decisions in ways which support the community's adopted vision and values.
- Increase the range and convenience of transportation choices.
- Direct transportation policies, investments, and decisions to design context-sensitive responses.
- Coordinate transportation policies, investments and decisions with neighboring communities and the larger region, while effectively managing impacts of increasing demand for regional highway travel.
- Focus investments on improvements which add long-term value; and maintain the transportation system in ways which minimize life cycle cost.

These goals reflect the goals of the General Plan Community Mobility Element, as well as a policy of sustainability. Further description of these goals can be found in the

Vision, Values, and Goals section of the Master Plan. In addition, the following goals apply directly to the Streets Element:

- Maintain and improve citywide traffic circulation by widening roadways where appropriate and in concert with citywide goals of neighborhood protection; by using the ITS and access control to manage traffic flow; by identifying major intersections for improvements, and by continuing a program of capacity improvements as part of the Capital Improvement Plan to respond quickly to capacity restrictions.
- Provide a framework for the development of a transportation system for Scottsdale that is based on the complete streets concept, where streets are designed and constructed in a manner compatible with the surrounding land uses for use by all users.
- Encourage a mix of land uses that reduce overall auto use and are compatible with the function of the adjacent street network.
- Protect neighborhoods from negative impacts of traffic.
- Develop and manage the street network in a manner that places reliance on improving the efficiency of the existing system before expanding that system.
- Pursue development of a highly connected and continuous road system allowing for convenient and efficient travel by all modes.

### **3.0 COMPLETE STREETS POLICY**

The Policy Element of the *Transportation Master Plan* includes the following policy objective on Complete Streets:

*Policy Objective: To design, operate and maintain Scottsdale's streets to promote safe and convenient access and travel for all users of all ages and abilities: pedestrians, bicyclists, transit vehicles and riders, and equestrians, as well as cars and trucks.*

A complete street is one that is designed and operated to enable safe and comfortable access for all users. Pedestrians, bicyclists, motorists, and transit riders of all ages and abilities are able to safely move along and across a complete street. Various streets in the community are currently without sidewalks or paths or have inadequate sidewalks; are too narrow to safely share with bikes; may be intimidating to cross as a pedestrian; or are uninviting for transit users. Incomplete streets are often less safe for multiple users than complete streets.

While the City's current design guidelines are very consistent with the complete streets concept, instituting a complete streets policy ensures that the entire right of way is designed and operated to enable safe access for all users. Ingredients that may be found on a complete street include: sidewalks and/or paths, bike lanes, frequent crosswalks, wide shoulders, medians, bus pullouts, special bus lanes, raised crosswalks, audible pedestrian signals, sidewalk bulb-outs, and more.

Complete Streets policies recognize that there is a need for flexibility as all streets are different and user needs will be balanced. All road projects should result in a complete street appropriate to local context and needs. A complete street policy will apply to both

new and retrofit projects, including design, planning, maintenance, and operations, for the entire right of way.

A Complete Streets Policy:

- Specifies that ‘all users’ includes pedestrians, bicyclists, transit vehicles and users, and motorists, of all ages and abilities.
- Aims to create a comprehensive, integrated, connected network.
- Recognizes the need for flexibility: that all streets are different and user needs will be balanced.
- Is adoptable by all agencies to cover all roads.
- Applies to both new and retrofit projects, including design, planning, maintenance, and operations, for the entire right of way.
- Makes any exceptions specific and sets a clear procedure that requires high-level approval of exceptions.
- Directs the use of the latest and best design standards.
- Directs that complete streets solutions fit in with context of the community.
- Establishes performance standards with measurable outcomes.

The following implementation strategies are included in the Complete Streets Policy.

### **3.1 Context-sensitive Design**

Design, operate and maintain the transportation network to improve travel conditions for bicyclists, pedestrians, transit, vehicles, equestrians and freight, in a manner consistent with and supportive of the General Plan and Transportation Master Plan Goals, and adapted to the localized context within the different areas of the City as described in:

1. The Area Plans for North Area Streets, Central/Downtown Scottsdale, and the Scottsdale Airpark contained within those sections of the Transportation Master Plan;
2. Relevant provisions of adopted Character Area plans for neighborhoods or other localized plans or standards.

### **3.2 Multi-Modal Approach**

A multi-modal approach includes all users (pedestrians, bicyclists, transit vehicles and users, equestrian users and motorists of all types) of all ages and abilities. This approach aims to create a comprehensive, integrated, connected network. Understand that a universal “rule” on all streets cannot be applied – for example, pedestrian and bicycle access on highways or freeways is not generally encouraged.

- Provide facilities and amenities that are recognized as contributing to Complete Streets, including: roadway and pedestrian-level street lighting; pedestrian and bicycle safety improvements; access improvements in accordance with the Americans with Disabilities Act; transit facilities accommodation, including but not limited to pedestrian access improvement to transit stops; street trees and landscaping; and street furnishings that are sensitive to the local context.

### **3.3 Mode Split and Vehicle Miles Traveled (VMT) Targets**

Creating targets for transportation mode splits and/or annual vehicle miles traveled are methods used throughout the nation to promote and support transportation options. In some urban areas, the mode split is as much as 45% - 55% non-single occupant vehicle (non-SOV). For Scottsdale, a mode split for its most active areas (e.g. Downtown, Scottsdale Road/Loop 101) could approach 25% by 2030. Strategies for achieving this mode split include: improving bicycle, pedestrian, fixed-route transit and local circulator transit facilities and services; and working within the General Plan Land Use Element to promote live, work, play and pedestrian-oriented development types. In time the combination of land uses and non-SOV facilities should positively increase the percentage of trips using transit, walking, and biking as the mode of choice.

### **3.4 Systematic Implementation**

Implement policies and procedures with the construction, reconstruction, or other changes of transportation facilities on arterial streets to support the creation of Complete Streets, including roadway restriping that considers existing and forecasted motor vehicle traffic, existing pavement and lane widths, "**A Policy on Geometric Design of Highways and Streets**" published by the American Association of State Highway and Transportation Officials (AASHTO), and desired bicycle accommodation. This restriping protocol is intended to accommodate bicycle lanes on existing roadways, through optimized use of existing rights-of-way.

More details on the provision of pedestrian, bicycle and equestrian facilities within the framework of complete streets and universal access and context-sensitive design within the City are presented in the Policy Element, the Bicycle Element, and the Pedestrian Element of the *Transportation Master Plan*.

## 4.0 EXISTING STREET SYSTEM/FUNCTIONAL CLASSIFICATION

The street system is defined by a street functional classification, consisting of a hierarchy of streets from the local streets to collector streets to arterial streets. These functional classes establish a common understanding of the use of the street and its character, regulate access from adjacent properties and determine how the costs of new street construction are shared between the City and surrounding properties.

The functional classification system for the City of Scottsdale has evolved over the years into a set of twenty classifications as shown in Table 1. However, only the major and minor arterial and collector street type categories are identified on published maps. The character designations, such as rural, suburban, and urban have been left to the discretion of the design review process.

<b>Table 1 Functional Classification Categories</b>	
<b>STREET TYPE</b>	<b>CHARACTER</b>
1. Major Arterial	a) Rural b) Suburban c) Urban
2. Minor Arterial	a) Rural/ESL b) Suburban c) Urban
3. Major Collector	a) Rural/ESL b) Suburban c) Urban
4. Minor Collector	a) Rural/ESL with Trails b) Rural/ESL c) Suburban d) Urban
5. Local Collector	a) Rural/ESL with Trails b) Rural/ESL c) Suburban
6. Local Residential	a) Rural/ESL with Trails b) Rural/ESL c) Suburban
7. Local Commercial/Industrial	



## 4.1 Street Classifications and Character Definitions

Definitions for the current street classification and character definitions are provided below.

### *Major and Minor Arterials*

Arterial streets with raised medians provide regional continuity and provide for long-distance traffic movements. As defined by the General Plan Community Mobility Element, the **regional** street level presents the relationships and coordination of systems that travel through and beyond the City borders. The coordination of these regional networks is important to maintain continuous and useful links between Scottsdale and its neighbors. Major arterials stress traffic movement while minimizing local access. Minor arterials also stress traffic movement, but moderate access is provided to abutting land uses. Access is controlled through frontage roads, raised medians, or continuous left turn lanes, as well as by the spacing and location of driveways and intersections. Arterial roadways generally serve higher traffic volumes (25,000-55,000 ADT) than collector streets.

### *Major and Minor Collectors*

Collector streets serve citywide needs and provide for shorter distance traffic movements and traffic movement between arterial and local streets. As defined by the General Plan Community Mobility Element, the **citywide** level focuses on policies that efficiently move people, goods and information through and within our community. They provide connectivity between arterials and local streets. Collectors serve medium traffic volumes (5,000- 30,000 ADT) with balanced emphasis on access to abutting commercial and residential land uses and mobility (travel speeds).

### *Local Collectors, Residential, and Commercial/Industrial Streets*

These streets serve local/neighborhood systems. As defined by the General Plan Community Mobility Element, the local/neighborhood level seeks to develop choices based upon the dynamics of local neighborhoods. Local systems include neighborhood streets, circulators, and shuttle bus systems, multiuse paths and connections to paths, sidewalks, and traffic calming strategies. Local streets serve lower traffic volumes (usually less than 5,000 ADT) with precedence to direct access to abutting land uses over mobility (travel speeds), and are usually designed to discourage high travel speeds.

### *Character Types*

Urban areas are defined as the activity centers and mixed use areas such as the Downtown, where pedestrian activity is likely to be the highest and alternative modes of transportation are more likely.

Suburban areas are defined as areas where land uses are often auto-oriented and there is separation between residential and commercial or employment uses.

Rural areas and Environmentally Sensitive Lands (ESL) streets (described below) are defined as desert or low density land uses areas.

ESL streets are constructed using standards that minimize the impact on the adjacent topography and landscape. For ESL areas, the basic design vehicle for all non-arterial streets is the Single Unit Truck as defined in the **AASHTO Policy on Geometric Design**

**of Highways and Streets** which serves as a policy guide for development of street design. Design of streets in ESL areas includes mountable or ribbon curb, with bike lanes and 8' sidewalk or trail optional.

As stated above, the character designations, such as rural, suburban, and urban have been left to the discretion of the design review process.

## **4.2 Scenic Roadway Designations**

Throughout Scottsdale, roadways have been designated scenic roadways through the *General Plan* since 1976, and have been further defined through *Scenic Corridor Design Guidelines* adopted by the Development Review Board in 2003. The *General Plan* Open Space and Recreation Element map designates Scenic Corridors and Buffered Roadways.

Existing Scenic Corridors are:

- Scottsdale Road (north of the CAP Canal)
- Pima Road (north of the Loop 101 Freeway)
- Dynamite Boulevard
- Shea Boulevard
- Carefree Highway
- Cave Creek Road

Existing Buffered Roadways include:

- Via Linda
- Frank Lloyd Wright Boulevard
- Hayden Road through the Airpark
- Thompson Peak Parkway
- Happy Valley Road
- Lone Mountain Road
- Desert Mountain Parkway
- Bell Road

The designation of Scottsdale's scenic roadways (Scenic Corridors and Buffered Roadways) is established as a hierarchy. Scenic Corridors are the largest roadways, with regional connectivity for both traffic and trails. The scenic setbacks of Scenic Corridors are also the largest, at 100 feet. Buffered Roadways are also major roadways, but smaller in scale (usually minor arterials or major collectors), with citywide rather than regional traffic and trails. The setbacks of Buffered Roadways are usually 40 to 50 feet. Buffered Roadways do not currently have specific design guidelines like the *Scenic Corridor Design Guidelines*.

Throughout 2002-2003, *Scenic Corridor Design Guidelines* were developed and taken through a public process and hearing with the Development Review Board for adoption. These guidelines clearly identify the setbacks (100 feet with some exceptions) and design elements for Scenic Corridors. The setback is measured from the back of planned ultimate right-of-way with some exceptions. Development within the setback is limited to revegetation, non-vehicular travel ways (e.g. shared-use paths, walks, and

trails with a meandering alignment), regional drainage structures, limited cross-access, and limited signs (as allowed by the sign ordinance). The scenic setback may be used as NAOS and counted as required open space. No walls should be located within the scenic setback; walls along Scenic Corridors should be low, meandering, and unobtrusive to enhance the visual open space aesthetic. The guidelines were adopted by the Development Review Board in February 2003.

In October 2004, the City Council adopted a *General Plan* amendment to add Bell Road to the Buffered Roadway designation and add a third level of scenic roadway designation called “Desert Scenic Roadway”. Desert Scenic Roadways apply to the one-mile, and half-mile roads within the City’s ESLO district (similar in area to the North Area) that are not already designated as a Scenic Corridor or Buffered Roadway. The setbacks of these roadways vary based on the topography and specific site conditions and rely on the placement of required NAOS and zoning setbacks to achieve the open space corridor along the roads. The City Council also adopted the application of a 100-foot scenic buffer along streets within and adjacent to the Recommended Study Boundary of the McDowell Sonoran Preserve on undeveloped (as of October 4, 2005) properties of 25 acres or larger.

These scenic roadways have an influence on roadways (especially in the northern area) and provision of non-motorized transportation facilities due to the larger setbacks and design considerations that acknowledge the unique topography and natural features of the desert character northern area.

### 4.3 Existing Cross Sections

Figures 1-4 are graphical representations of the **current** cross-section for each street classification: Figure 1 Major Arterials, Figure 2 Minor Arterials, Figure 3 Major Collectors, and Figure 4 Minor Arterials.

**Figure 1: Major Arterials Typical Cross Sections**

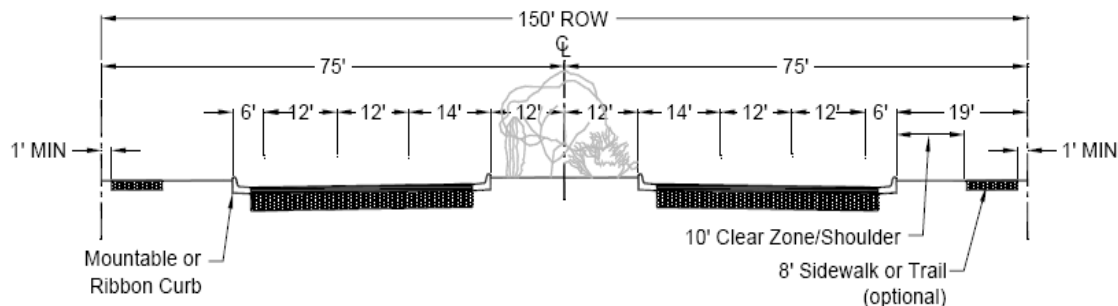


Figure 1.a: Major Arterials – Rural Character

**Figure 1: Major Arterials Typical Cross Sections**

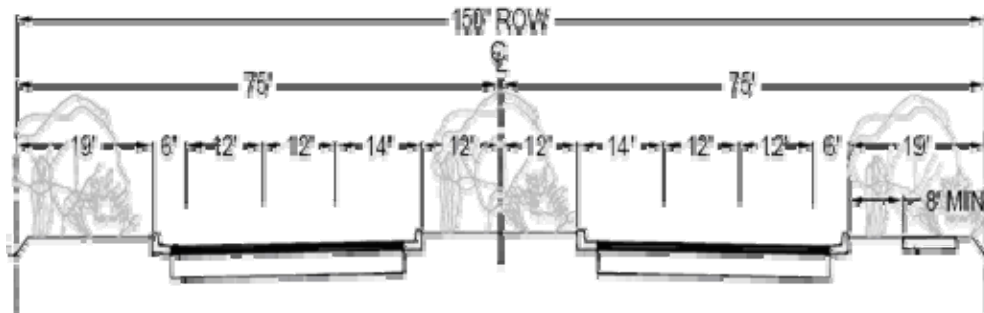


Figure 1.b: Major Arterials – Suburban Character

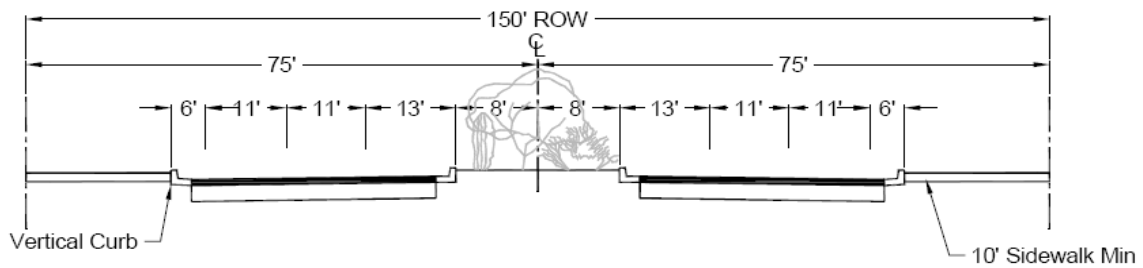


Figure 1.c: Major Arterials – Urban Character

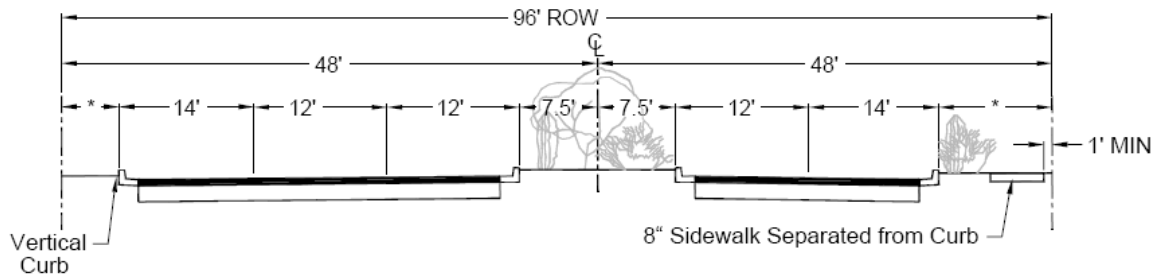
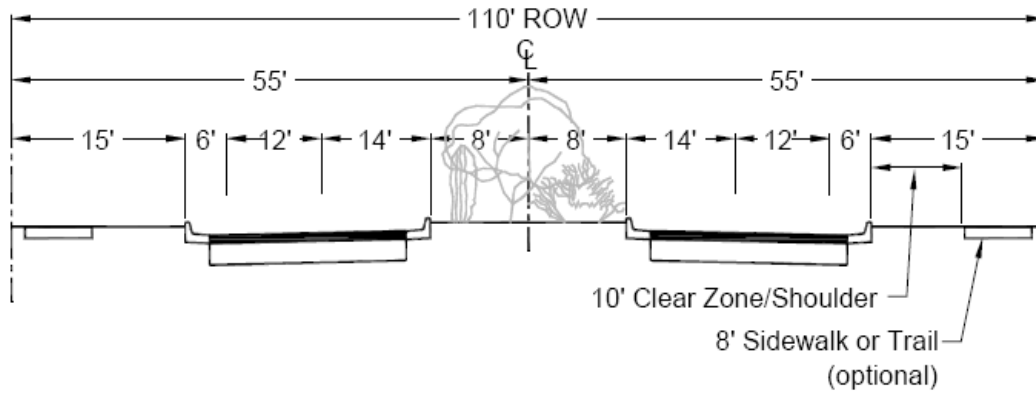
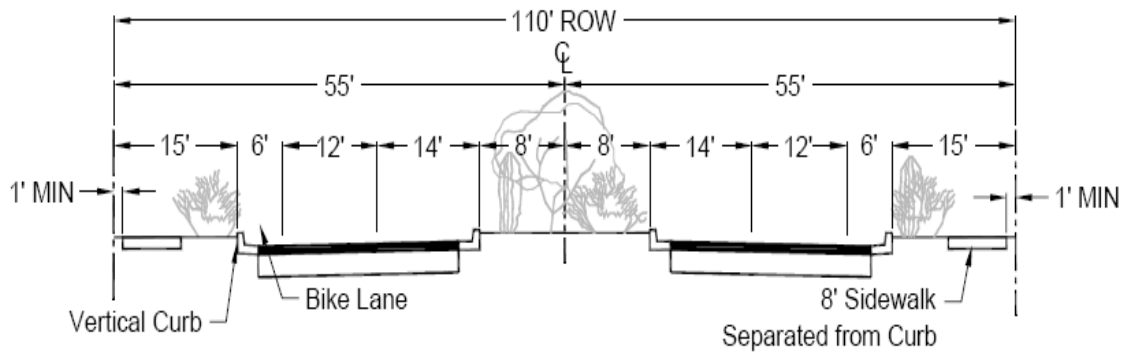


Figure 1.d: Major Arterials – Couplet Streets

**Figure 2: Minor Arterials Typical Cross Sections**



**Figure 2.a: Minor Arterials – Rural/ESL Character**



**Figure 2.b: Minor Arterials – Suburban Character**

**Figure 2: Minor Arterials Typical Cross Sections**

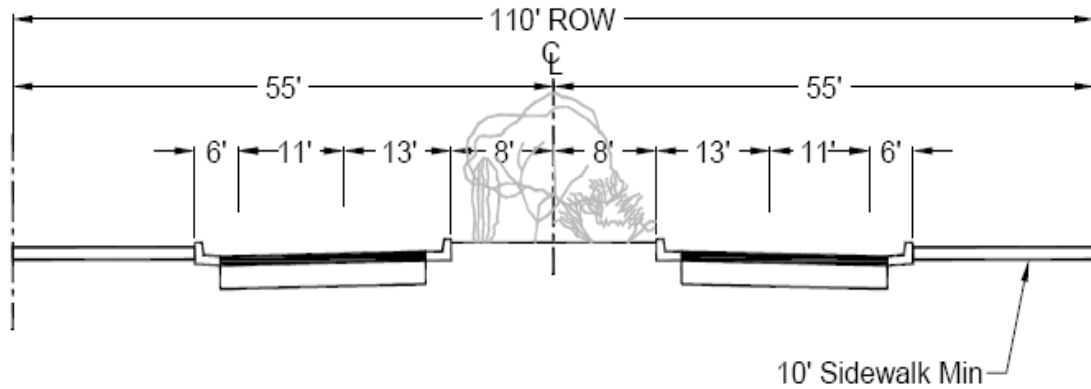


Figure 2.c: Minor Arterials – Urban Character

**Figure 3: Major Collectors Typical Cross Sections**

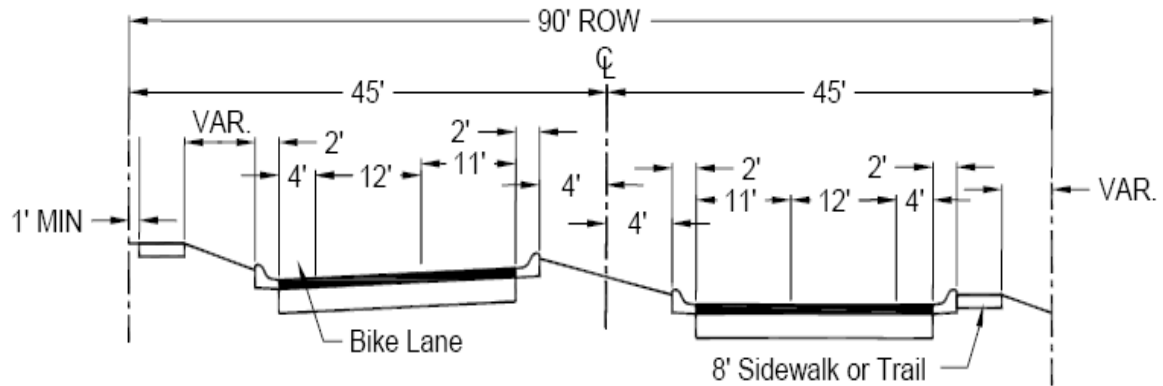


Figure 3.a: Major Collectors – Rural/ESL Character

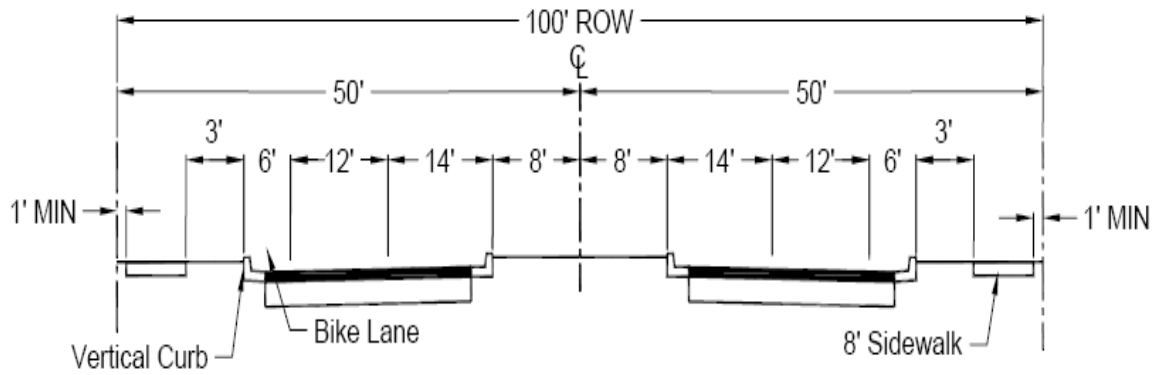


Figure 3.b: Major Collectors – Suburban Character

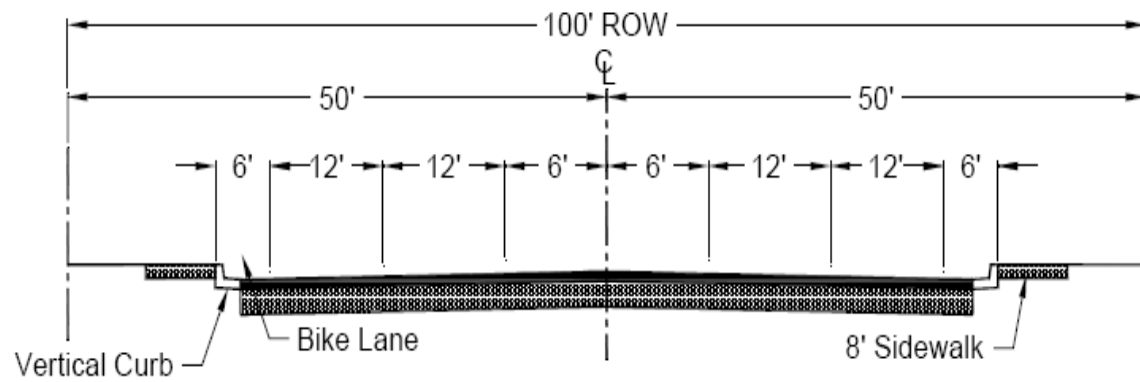


Figure 3.c: Major Collectors – Urban Character

**Figure 4: Minor Collectors Typical Cross Sections**

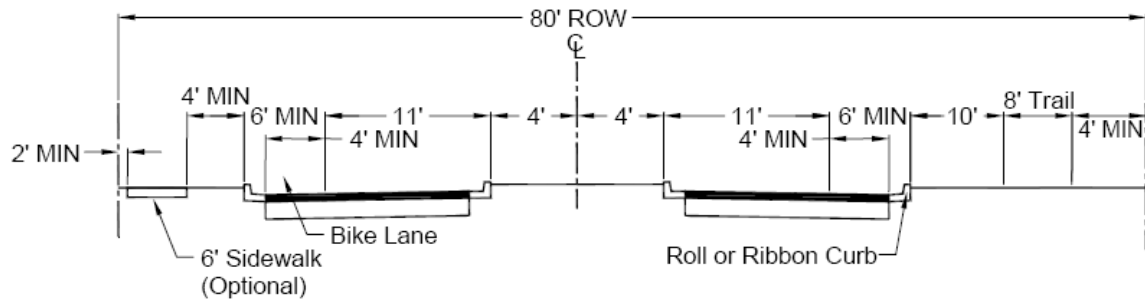


Figure 4.a: Minor Collectors – Rural/ESL Character with Trails

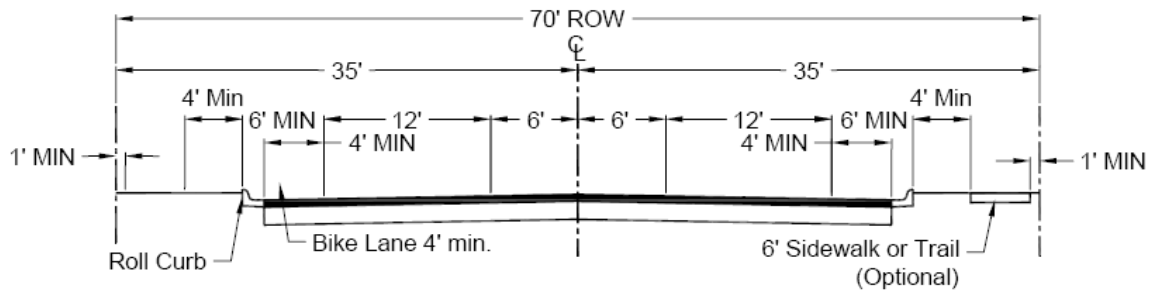


Figure 4.b: Minor Collectors – Rural/ESL Character

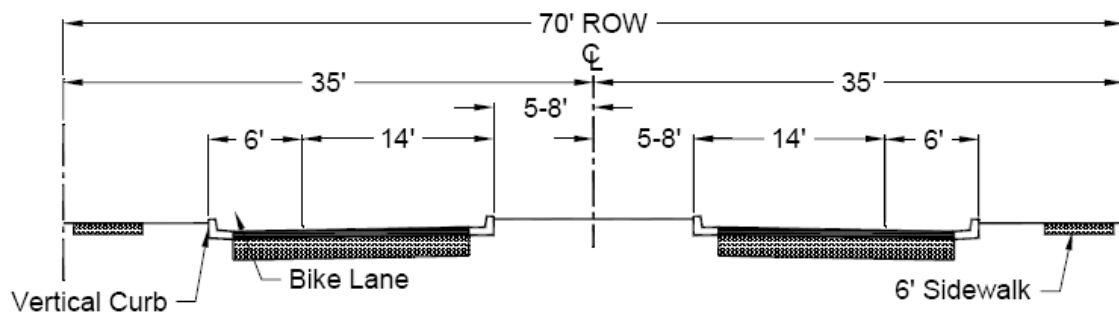


Figure 4.c: Minor Collectors – Suburban Character



**Figure 4: Minor Collectors Typical Cross Sections**

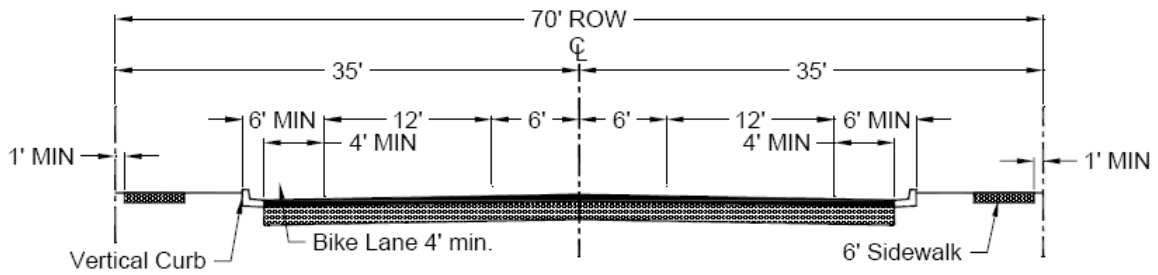


Figure 4.d: Minor Collectors –Urban Character

## 5.0 RECOMMENDED STREET SYSTEM/FUNCTIONAL CLASSIFICATION

The functional classification system that has been developed for the Scottsdale Transportation Master Plan focuses on the four major roadway classifications: major arterial; minor arterial; major collector; and minor collector.

This section details the recommended City of Scottsdale's Functional Classification that has resulted from work performed during the Transportation Master Plan process. *Figure 5* presents the recommended functional classification system for all arterial and collector streets in the City. Arterials and collectors are also designated as either major or minor. The number of lanes ranges from two on a Minor Collector to six on a Major Arterial.

### Functional Classification Characteristics

#### Existing Typical Sections

Street Type	Right of Way	Lanes	Bike Lane	Sidewalk (Trail optional in Rural/ESL character)
Major Arterial	150'	6	YES	YES
Minor Arterial	110'	4	YES	YES
Major Collector	Varies	4	YES	YES
Minor Collector	Varies	2	YES	YES
Minor Collector with Rural/ESL with Trails	Varies	2	YES	Optional

These dimensions are stated for the roadway corridors themselves. At intersections, a larger dimension may be necessary to accommodate turning lanes. This plan recommends that additional right-of-way, up to 20 feet, be reserved at intersections to provide these intersection enhancements.

The Transportation Master Plan recommends that all sidewalks and walkways shall provide a minimum of 6 feet travel space to accommodate pedestrians using assistive devices. This minimum width does not include additional space that may be required to accommodate landscaping and site furnishings where appropriate. This is intended to

ensure compatibility with the recommendations of the Transportation Master Plan's Pedestrian Element and the Universal Design principles contained therein. The following listing incorporates the character types of rural, suburban, and urban as well as the pedestrian route network identification from the Pedestrian element:

- Sidewalks and walkways must provide a minimum travel space of 6 feet for rural areas identified on the pedestrian route network maps as low and medium low. A trail could replace a sidewalk or walkway in rural areas identified on the pedestrian route network maps as low.
- Sidewalks and walkways must provide a minimum travel space of 8 feet for suburban areas identified as medium or medium high.
- Sidewalks and walkways must provide a minimum travel space of 10 feet for suburban areas identified as high.
- Sidewalks and walkways must provide a minimum travel space of 10 feet for urban areas, except in urban areas identified on the pedestrian route network maps as high, where a minimum travel space of 12 feet must be provided.

For additional information see the Pedestrian Element of the *Transportation Master Plan*.

The Transportation Master Plan recommends future functional classification include the character designation in addition to the street classification.

#### *Character Types*

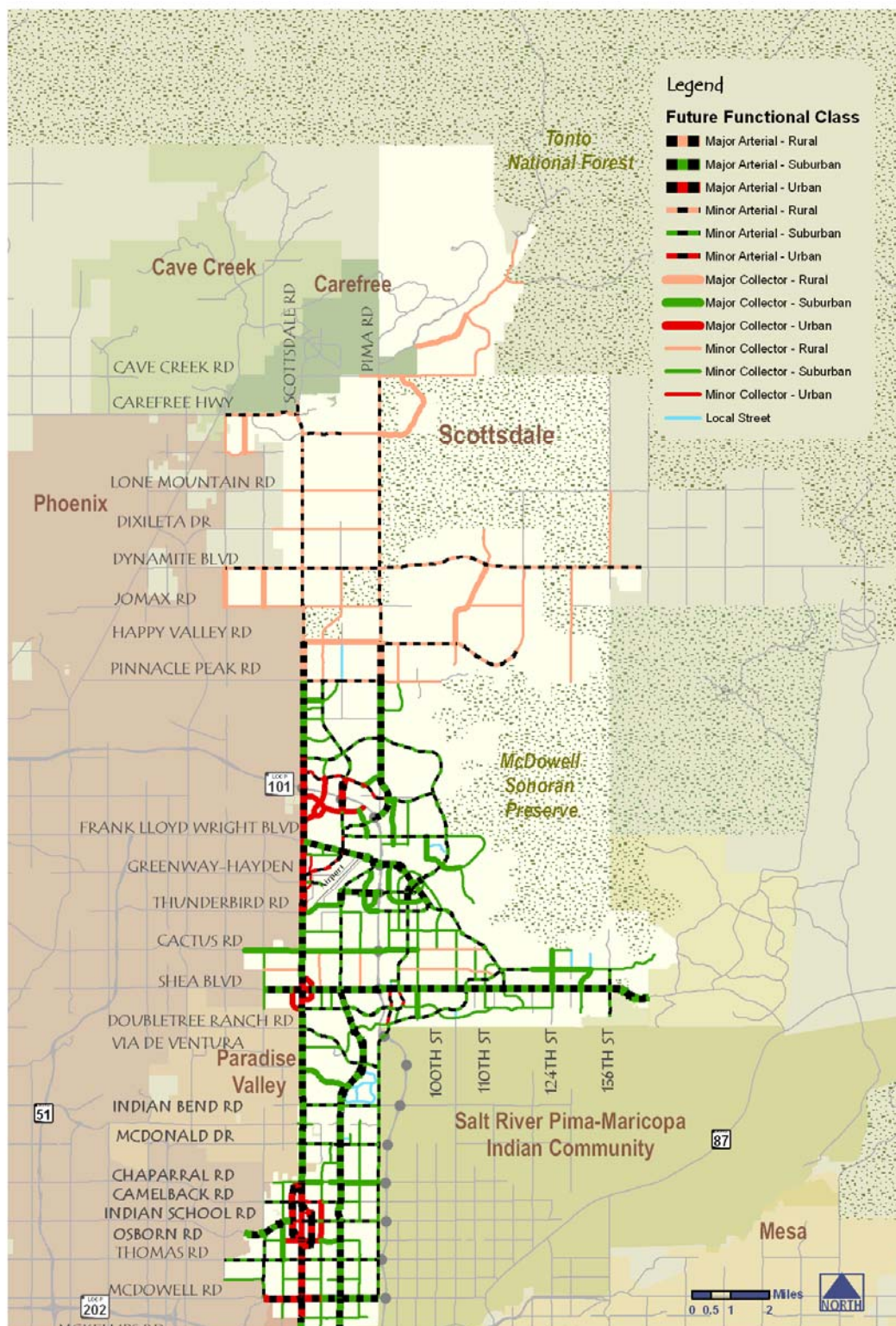
Urban areas are defined as the activity centers and mixed use areas such as the Downtown, where pedestrian activity is likely to be the highest and alternative modes of transportation are more likely. Urban character areas are designated in Downtown, in the Shea/92<sup>nd</sup> Street area, in the Airpark area, and in the area surrounding One Scottsdale.

Suburban areas are defined as areas where land uses are often auto-oriented and there is separation between residential and commercial or employment uses. Generally the suburban designation is for roadways south of Pinnacle Peak Road.

Rural areas and Environmentally Sensitive Lands (ESL) streets are defined as desert or low density land uses areas. Consideration should be given to providing a specific "rural" cross section that includes larger rights-of-way to be used to provide additional buffers, and accommodate trails and multi-use paths that may require more horizontal space due to topography and environmental sensitivity of the surrounding desert. Horseback riding, mountain biking, and hiking are generally the predominant non-vehicular methods of transportation in rural areas. Generally the rural designation is for roadways north of Pinnacle Peak Road.

Additional details for each segment of roadway in the City are presented in Appendix A.

Figure 5: Recommended Street Functional Classification



#### Recommendations for street geometrics of major arterials:

- Major arterials should have no greater than 55 mph design speeds (see the Policy Element)
- Most major arterials are designed as divided roadways with 6 travel lanes in 150' ROW.
- Rural major arterials design includes mountable or ribbon curb, 10' clear zone or shoulder, 6' bike lane, and 8' sidewalk or an optional trail. (see Trails Master Plan)
- Suburban major arterials design includes vertical curb, 6' bike lane and 8' sidewalk separated from curb.
- Urban major arterials design includes vertical curb, 6' bike lane, and 10' minimum sidewalk which can be located back of curb.
- Five-Lane major arterials are to be constructed with 45 mph design speed, five lanes in one direction and two lanes in other direction, divided roadway in 96' ROW. Their design includes vertical curb, 8' wide sidewalk separated from curb on one side of roadway.

#### Recommendations for street geometrics of minor arterials:

- Minor arterials should have no greater than 55 mph design speeds (see the Policy Element)
- Most minor arterials are designed as divided roadways with 4 travel lanes in 110' ROW.
- Rural minor arterials design includes mountable or ribbon curb, 10' clear zone or shoulder, 6' bike lane, and 8' sidewalk or an optional trail. (see Trails Master Plan)
- Suburban minor arterials design includes vertical curb, 6' bike lane and 8' sidewalk separated from curb.
- Urban minor arterials design includes vertical curb, 6' bike lane, and 10' minimum sidewalk which can be located back of curb.

#### Recommendations for street geometrics of major collectors:

- Major collectors have 35-45 mph design speeds.
- Most major collectors are designed as divided roadways with 4 travel lanes in 90'-100' ROW.
- Design of rural major collectors includes mountable or ribbon curb, 4' bike lane, and 8' sidewalk or an optional trail. (see Trails Master Plan)
- Suburban major collector design includes vertical curb, 6' bike lane and 8' sidewalk separated from curb with 3' clearance.
- Urban major collector design includes vertical curb, 6' bike lane, and 8' minimum sidewalk which can be located back of curb.

Recommendations for street geometrics of minor collectors:

- Minor collectors should have no greater than 35 mph design speeds.
- Most minor collectors are designed with 2 travel lanes in 70'-80' ROW.
- Rural minor collector design includes roll or ribbon curb, 4' bike lane, and 8' sidewalk. In some situations rural minor collectors may include an 8' trail with 10' clearance or shoulder on one side of the roadway and 8' sidewalk on the other. (see Trails Master Plan)
- Suburban minor collector design includes vertical curb, 6' bike lane and 8' sidewalk separated from curb.
- Urban minor collector design includes vertical curb, 4' minimum bike lane, and 8' minimum sidewalk which can be located back of curb.

## 6.0 STREETS ELEMENT POLICIES

The *Transportation Master Plan* includes a Policy Element that addresses policies on street-related issues such as: speed limits, truck routes, Intelligent Transportation Systems (ITS), and access management. As these policies are important to the management of the Streets Element, a brief summary of each policy is included in this section. The Policy Element of the *Transportation Master Plan* contains a more detailed discussion of transportation-supportive policy recommendations.

### 6.1 Freight Mobility/Truck Routes

Commercial truck vehicle traffic is a basic feature of community living. Grocery stores need food deliveries and businesses need their goods delivered or picked up. Most of Scottsdale's arterial streets have residential frontage, making the need for buffering solutions and mitigation imperative. Currently, the City has several designated truck routes, but those designations do not extend north of Indian Bend Drive.

It is recommended that all major roadways are considered truck routes. All neighborhood/local system routes will not be considered for truck route designations. Roadways will be considered for truck routes based on the following:

- Connection to a regional freeway
- Reasonable alternative routes for truck traffic
- Historical usage by truck traffic
- Zoning, land uses (commercial, residential, schools) along the route
- Noise mitigation measures such as rubberized pavement

In accordance with the provisions of Scottsdale City Code Article 3, Section 17-60 and when signs are erected giving notice of the adopted truck routes, no persons shall operate any commercial vehicle exceeding ten thousand (10,000) pounds gross vehicle weight at any time upon any streets or part of a street, except for the purpose of pick-up or delivery of materials or merchandise.

Operators of said commercial vehicles may leave an adopted truck route by the nearest route to travel a distance no greater than three-fourths of a mile to complete deliveries and pick-ups. At the completion of said delivery and/or pick-up, commercial vehicle operators must return immediately by the nearest route, not to exceed three-fourths of a mile. However, such travel detours shall not entail crossing another truck route.

- Major roadways will be considered routes for freight delivery with restrictions on the hours of day when deliveries can be made to help mitigate adverse impacts of trucks to residential areas.
- In Downtown Scottsdale and other designated urban character areas, trucks should not block travel lanes especially during peak hours in the morning and evening.

## 6.2 Intelligent Transportation Systems (ITS)

Intelligent transportation systems (ITS) can be defined as the integration of advanced communications technologies into the transportation infrastructure and in some areas, vehicles. ITS encompass a broad range of wireless and wire line communications-based information and electronics traffic management technologies, including traffic signals, computers, integrated software systems, graphics, video walls, fiber optic cable, closed circuit TV cameras, variable message signs, ramp meters, and vehicle detectors. ITS is used to coordinate signals, integrate freeway and arterial operations, improve traffic progression, reduce incident clearance times, improve bus progression, and enhance special event traffic management.

The City of Scottsdale ITS system automates traffic signal control and roadway congestion response. Scottsdale ITS devices are integrated with a central coordinated electronic traffic signal system in the City's Traffic Management Center (TMC). The ITS system includes 46 pan-tilt-zoom cameras at intersections allowing TMC personnel to view traffic conditions and make adjustments to approximately 285 signals remotely. Integrating ITS devices with a centrally coordinated electronic traffic signal system results in significant benefits to residents of Scottsdale.

The objectives of the Scottsdale ITS Strategic Plan are as follows:

- Hold travel time on City streets steady, and where possible, reduce travel time, even as traffic volume increases due to growth;
- Reduce traffic incident delay;
- Communicate rapidly among the Police Department, Emergency Services, Arizona Department of Transportation, Fire, television and radio stations, vehicle drivers and Traffic Management Center to enhance roadway safety;
- Coordinate between adjacent municipalities and jurisdictions along arterial, crossing borders and at interchanges with freeways.

As technology continues to evolve, so will the need for more advanced operational plans. Management of the City's 2003 ITS Strategic Plan requires coordination and partnerships with the Transportation Department, Police Department, Emergency Services, and Information Systems. When properly deployed and operated, ITS decreases congestion common to high traffic volumes, incidents, and special events.

- Support the ITS Strategic Plan and the objectives of the ITS Strategic Plan listed above, by ensuring adequate staffing, personnel training, operations and maintenance, as well as timely equipment updates.
- It is recommended that the Strategic Plan prepared in 2003 be updated to reflect the progress made since that date, and to guide the ITS buildout to 2012.
- Expand the use of ITS for future transportation modes such as bus rapid transit corridors programmed in the Regional Transportation Plan (Proposition 400).
- Explore additional uses of ITS such as applications that show real-time traffic conditions on the internet or real-time transit vehicle speed and estimated trip timing through vehicle sensors.



### **6.3 Speed Limits**

Arizona State Traffic Law allows local authorities within their respective jurisdictions to determine and/or change the maximum speed limit for all arterial streets as well as businesses and residential districts to a reasonable and safe speed based on engineering and traffic investigations.<sup>1</sup> Speed limits are typically set for new roadways based on a roadway's design and whether the surrounding area is urban, suburban, or rural. Design speed is defined as the maximum safe speed that can be maintained based on the geometric design features of the roadway. Speed limits are typically set lower than design speeds to provide a margin of safety and to allow for other operation characteristics that may influence safe speeds along the corridor.

A speed limit study helps to determine the appropriate speed for a roadway or roadway segment. In addition to evaluating speed data on existing roadways, speed studies investigate roadway geometry, adjacent land use and development, roadway hazards, bicycle and pedestrian traffic, and accident history. These factors are outlined in the Manual on Uniform Traffic Control Devices (MUTCD), which is the national set of standards for traffic control devices.

- Roadway design speeds should be no greater than 55 mph within the City of Scottsdale allowing for maximum safety and to encourage drivers to adhere to the speed limit proposed for the facility based on its function.
- Arterial roadways should facilitate through travel and limit access to reduce conflicts and improve safety. Design elements should not encourage speeds above 50 miles per hour.
- Roadways classified as collector streets should balance access with through travel and incorporate design elements that encourage driver compliance with speeds of no more than 40 miles per hour.
- Neighborhood streets should prioritize access over through travel and should incorporate design elements that encourage driver compliance with speed limits between 25 and 30 miles per hour.
- For specific enforcements of travel speeds, it is appropriate for travel speed statistics to be determined for different time periods of the day and different days of the week. These different sets of travel speed statistics can be utilized to concentrate enforcement to the hours and days when travel speeds are most disparate and therefore most likely to result in collisions.

### **6.4 Access Management**

Access management seeks to limit and consolidate access along major roadways at the same time providing a street system and access to support businesses and residential

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<sup>1</sup> Arizona Revised Statutes Title 28, Article 6, Section 28-703

development along the roadway. The result is a corridor that functions safely and efficiently as well as a more attractive corridor.

Some aspects of access management can be addressed at the development review stage, in response to a request for a development or connection permit. This may be accomplished through the subdivision or site plan review process. Larger developments are often required to submit a traffic impact assessment to assist the City in its review and access management can be implemented at this time.

Benefits of access management include the following: improving safety for drivers accessing properties or traveling in a through travel lane, reducing congestion and delay, and making pedestrian and bicycle travel safer.

- Define acceptable levels of access for each roadway classification to preserve its function, including criteria for the spacing of signalized and unsignalized access points.
- Apply appropriate geometric design criteria and traffic engineering analysis to each allowable access point.
- Enforce existing access management regulations that address access spacing and design.

Appendix B contains the current access management policies.

## **6.5 Roadway Modification Guidelines**

In order to address congestion issues, communities are often faced with the need to add additional travel lane capacity to the transportation network. This need must also be weighed against neighborhood impacts and community character or context issues. In Scottsdale, the primary roadway network consists of 2-lane collectors, 4-lane collectors and arterials and 6-lane arterials. The City currently limits local roadway widths to 6 lanes, and this plan proposes to continue this longstanding policy. One measure that is often used to assist in making decisions regarding adding travel lanes is the volume to capacity ratio, which compares average daily traffic lanes volumes to a predetermined standard.

Based on historic traffic volume trends it is recommended that:

- Target average daily volumes for 2-lane collectors be no more than 8,000 vehicles per lane per day using 2030 forecasted volumes.
- Target average daily volumes for 4-lane collectors and arterials be no more than 10,000 vehicles per lane per day using 2030 forecasted volumes.
- Widening of roadways designated as rural in character would be considered when forecasted volumes reach 90% of the target threshold.
- Widening of roadways designated as suburban in character would be considered when forecasted volumes reach 100% of the target threshold.
- Widening of roadways designated as urban in character would be considered when forecasted volumes reach 120% of the target threshold.

- Roadway widening will typically be limited to minimum 1-mile segments.
- To promote sustainability, the priority for improvements to corridors reaching the target volume thresholds is:
  - Improve use of existing facilities through the efficient implementation of cost effective signing, striping, intersection control and sight distance improvements.
  - Improve access to, and amenities at, transit stops, if transit service is available and review quality of the service
  - Upgrade pedestrian facilities to at least minimum standards
  - Upgrade bicycle facilities to at least minimum standards
  - Consider adding transit service, if not currently available
  - Install ITS equipment, if none existing, and integrate with transit service
  - Increase access management
  - Add right turn deceleration lanes to commercial and/or multi-family driveways
  - Add turn lanes at intersections
  - Add travel lanes
- Consider a minimum buffering distance from homes on roadways in order to enhance neighborhood preservation and livability when roadway widening may be necessary.
- Four-lane roadways may be considered for lane reductions when forecasted volumes do not exceed a total of 12,000 vehicles per day.

## **6.6 Roadway Noise Mitigation**

The City of Scottsdale does not provide noise mitigation on roadways that are not being widened or realigned closer to residences. If it becomes necessary to widen a roadway, the City uses Arizona Department of Transportation (ADOT) policies for roadway noise levels and when mitigation should occur, excluding the cost ceilings identified in the ADOT policies. In addition, the City uses rubberized asphalt on new and major resurfacing roadway paving projects, decreasing the levels of roadway noise on City streets. In areas where noise mitigation involves the installation of sound walls and these walls conflict with other City policies and practices, particularly the Scenic Corridor Design Guidelines, Environmentally Sensitive Lands Ordinance, and the Foothills Overlay zoning district, the City may adopt alternative measures such as rubberized asphalt, berms, a combination of both, or alternatively, the consideration of a modified version of the ADOT noise mitigation policies for use in City roadway projects, as approved by the City's Transportation Commission and Council.

It should also be noted that the decision to mitigate will be tempered by other considerations, such as the financial feasibility and reasonableness of proposed noise walls and other mitigation, including vehicle safety, aesthetics, security, drainage, and emergency vehicle access.

## **6.7 Roadway Construction Impacts**

Roadway construction has a range of impacts on mobility for autos, pedestrians, bicyclists, and transit users. The City works with contractors doing road construction to maintain through travel and business access during construction. Construction barricading and scheduling is required to be submitted to the city's right of way manager. Through the Master Plan process there has been some discussion about limiting construction to nighttime hours, to making sure that weekend and special event travel is unimpeded, and ways to limit the duration of travel lane closures.

The City's emerging Right of Way Management Program (RWMP) establishes a central point of coordination and management of the often competing activities in the public right of way. This central point of contact will review and schedule activities to avoid conflicts, and will attempt to consolidate similar activities that are scheduled to occur in the same vicinity to avoid multiple lane closures and restrictions. The RWMP proposes to include revisions to city code and ordinances, and introduce new policies and procedures which will facilitate management of the right of way. Field inspections and enforcement of proposed code will reduce unauthorized or ineffective closures and restrictions.

- Schedule arterial roadway construction so that parallel arterials will not be under construction at the same time.
- Avoid limiting roadways to one through lane of traffic in either direction during roadway construction.

## **6.8 Traffic Signal Timing**

The Transportation Master Plan recognizes the need for a comprehensive review of traffic signal timing policies. The City has signal timing plans for all major roadways and intersections for varying times of day; these plans are subject to continuous review and update. At the Master Plan level, it is recommended that revisions to the signal timing policy be made flexible to mitigate peak hour congestion, as a cost-feasible alternative to street widening, and also that the signal timing policy accommodate pedestrian crossings, in general, on all streets within the City limits.

## **6.9 Local Area Infrastructure Plans**

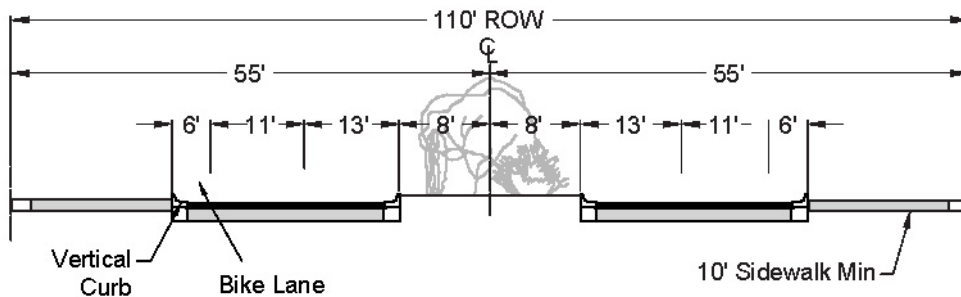
Local area infrastructure plans have been drafted for some areas of the City outside of master planned communities. The purpose of these plans is to guide local decisions for infrastructure improvement (streets, water, trails, etc.) and related development, and to help coordinate the efforts of various City departments in providing these necessary services. These plans have not been approved or adopted by an official body, but serve as guides for City staff when reviewing development proposals. The goals and policies of the local area infrastructure plans will be adopted as part of the Transportation Master Plan. The maps displaying recommended infrastructure located in Appendix C and

adopted by reference. Significant public outreach will be required prior to finalizing the maps, which will be revised when/if conditions change. Specific policy guidance is provided in the Policy element.

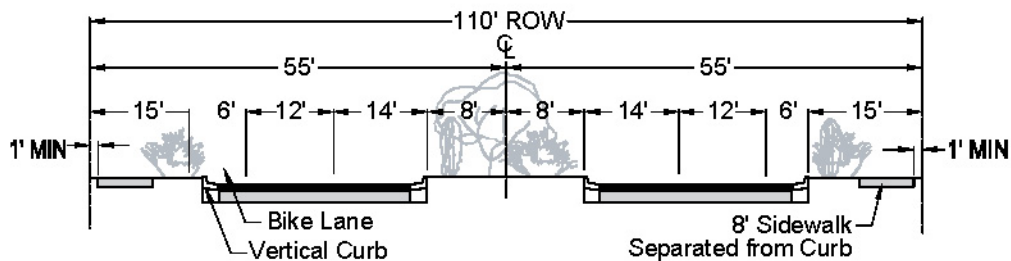
## 6.10 Street Cross Sections and Context Sensitive Design

The City's DS&PM was updated in August 2007. The updates are consistent and compatible with the policy recommendations resulting from the Transportation Master Plan, that all streets be designed in context of adjacent land uses. Three representative samples of context-sensitive Urban, Suburban and Rural sections included in the City's DS&PM are shown below:

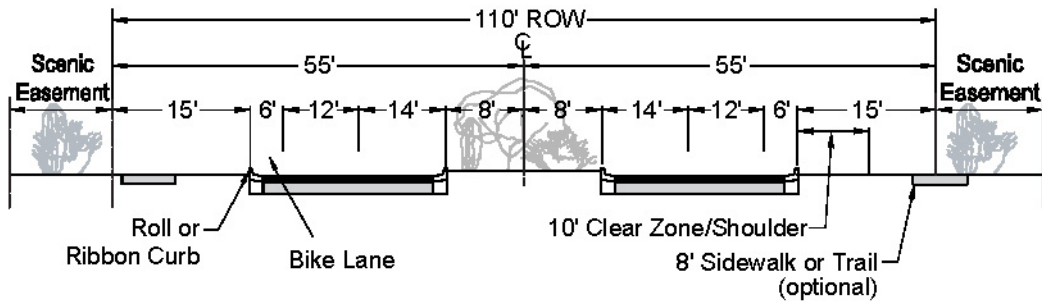
**COS August 2007 DS&PM  
Urban Cross Section**



**COS August 2007 DS&PM  
Suburban Cross Section**

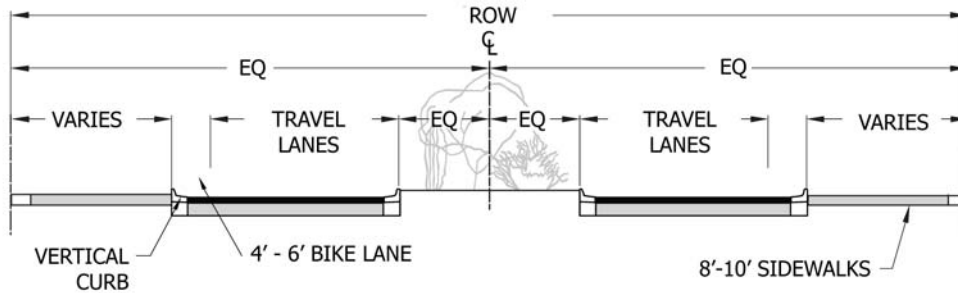


### Rural Cross Section



The following three sections represent generalized interpretations of three basic context-sensitive cross sections, developed by the Transportation Master Plan team, that are consistent with the updated DS&PM sections above. These TMP sections show a range of alternative applications for curb treatments, bicycle lanes and sidewalks.

### Transportation Master Plan Interpretation: Urban Cross Section



### Transportation Master Plan Interpretation: Suburban Cross Section

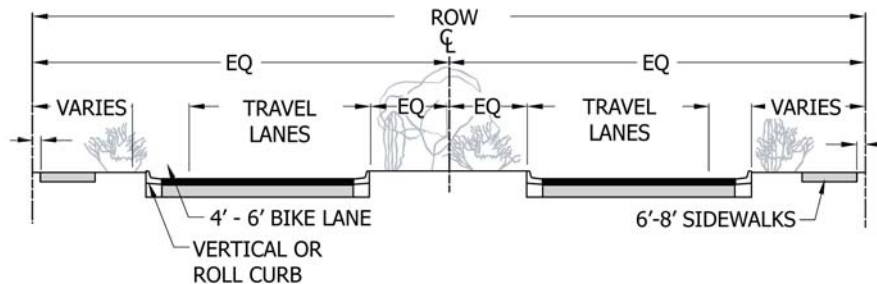


Diagram illustrating a street cross-section with a center turn lane. The diagram shows a central turn lane flanked by travel lanes. Key dimensions and components are labeled:

- ROW**: Right of Way line.
- EQ**: Equal distance from the centerline to the travel lanes.
- VARIES**: Variable distance from the travel lanes to the curb.
- TRAVEL LANES**: The main lanes for traffic.
- ROLL OR RIBBON CURB**: The curb separating the travel lanes from the bike lane.
- 4' - 6' BIKE LANE**: The dedicated lane for bicycles.
- CLEAR ZONE**: The area between the bike lane and the sidewalk.
- 6'-8' SIDEWALKS, OPT. ONE SIDE ONLY**: The sidewalk area, which may be present on one or both sides.

## APPENDIX A

### STREETS ELEMENT MATRIX

The Streets Element Matrix presented in this Appendix includes the following information for all arterial and collector streets in the City:

- **Adopted Future FC**– The currently adopted future Functional Classification
  - **MJA:** Major Arterial
  - **MNA:** Minor Arterial
  - **MJC:** Major Collector
  - **MNC:** Minor Collector
  - **L:** Local
- **Recommended Future FC** – Recommended Future Functional Classification
  - **MJA – R:** Major Arterial – Rural
  - **MJA – S:** Major Arterial – Suburban
  - **MJA - U:** Major Arterial – Urban
  - **MNA – R:** Minor Arterial – Rural
  - **MNA – S:** Minor Arterial – Suburban
  - **MNA – U:** Minor Arterial – Urban
  - **MJC – R:** Major Collector – Rural
  - **MJC – S:** Major Collector – Suburban
  - **MJC – U:** Major Collector – Urban
  - **MNC- R:** Minor Collector – Rural
  - **MNC- S:** Minor Collector – Suburban
  - **MNC- U:** Minor Collector – Urban
- **Existing Lanes**
- **Recommended Future Lanes**
- **2006 ADT Values**
- **2030 ADT Values**
- **Streetscape Corridor or Scenic Corridor**



## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
NORTH-SOUTH STREETS (from west to east)										
56 <sup>th</sup> Street	Jomax	Pinnacle Vista	MJC	MJC-R	0	4	200	.01	10,600	0.29
56th Street	Pinnacle Vista	Dynamite	MJC	MJC-R	2	4	200	0.01	9,100	0.25
56th Street	Dove Valley	Carefree Highway	MNC	MNC-R	2	2	200	0.01	1,000	0.06
60th Street	Dove Valley	Carefree Highway	MJC	MJC-R	4	4	800	0.03	2,000	0.06
64th Street	McDowell	Thomas	MNA	MNA-S	4	4	17,900	0.45	24,300	0.61
64th Street	Thomas	Osborn	MNA	MNA-S	4	4	10,000	0.25	16,600	0.41
64th Street	Osborn	Indian School	MNA	MNA-S	4	4	13,700	0.34	19,500	0.49

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
64th Street	Mountain View	Shea	MNC	MNC-S	2	2	10,200	0.64	9,200	0.58
64th Street	Shea	Cactus	MNC	MNC-S	2	2	8,100	0.51	7,900	0.49
64th Street	Jomax	Dynamite	MJC	MJC-R	2/4	4	300	0.01	11,700	0.32
68th Street	Continental/ Roosevelt	McDowell	MNC	MNC-S	2	2	6,100	0.38	6,500	0.41
68th Street	McDowell	Thomas	MNC	MNC-S	2	2	10,200	0.64	11,300	0.71
68th Street	Thomas	Indian School	MJC	MJC-S	4	4	15,300	0.43	15,900	0.44
68th Street	Indian School	Camelback	MNC	MNC-S	2	2	12,000	0.75	13,300	0.83
68th Street	Camelback	Chaparral	MNC	MNC-S	2	2	6,900	0.43	6,800	0.42
70th Street /Mtn View	Scottsdale	Shea	MJC	MJC-U	4	4	13,400	0.31	13,700	0.32

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Goldwater Blvd	Scottsdale	Indian School	MJA	MJA-U	5	4	14,800	0.25	17,300	0.29
Goldwater Blvd	Camelback	Scottsdale	MJA	MJA-U	5	4	13,000	0.36	14,900	0.39
Goldwater Blvd	Indian School	Camelback	MJA	MJA-U	5	4	26,000	0.43	29,200	0.48
Scottsdale	McKellips	Continental/ Roosevelt	MJA	MJA-S	6	6	37,800	0.53	47,100	0.65
Scottsdale	Roosevelt	McDowell	MJA	MJA-U	6	6	35,700	0.50	42,400	0.59
Scottsdale	McDowell	Thomas	MJA	MJA-U	6	6	47,200	0.66	54,500	0.76
Scottsdale	Thomas	Earll	MJA	MJA-U	6	6	44,300	0.62	49,500	0.69
Scottsdale	Earll	Osborn	MJA	MJA-U	5	5	35,600	0.49	39,400	0.55

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Scottsdale	Osborn	Indian School	MJC	MJC-U	4	4	22,700	0.49	24,700	0.53
Scottsdale	Indian School	Drinkwater	MJC	MJC-U	4	4	20,100	0.47	21,100	0.49
Scottsdale	Drinkwater	Camelback	MJA	MJA-U	5	5	33,200	0.46	36,000	0.50
Scottsdale	Camelback	Chaparral	MJA	MJA-U	6	6	40,000	0.58	42,700	0.62
Scottsdale	Chaparral	McDonald	MJA	MJA-S	6	6	50,000	0.83	51,000	0.85
Scottsdale	McDonald	Indian Bend	MJA	MJA-S	6	6	47,200	0.79	47,000	0.78
Scottsdale	Indian Bend	McCormick Pkwy	MJA	MJA-S	6	6	35,900	0.60	36,300	0.61
Scottsdale	McCormick Pkwy	Mountain View	MJA	MJA-S	6	6	40,500	0.67	41,200	0.69
Scottsdale	Mountain View	Gold Dust	MJA	MJA-U	6	6	37,9000	0.53	37,500	0.52

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Scottsdale	Gold Dust	Shea	MJA	MJA-U	6	6	38,100	0.53	38,700	0.54
Scottsdale	Shea	74 <sup>th</sup> Street/Mescal	MJA	MJA-U	6	6	33,700	0.47	32,500	0.45
Scottsdale	74 <sup>th</sup> Street/Mescal	Cactus	MJA	MJA-S	6	6	47,400	0.66	44,500	0.62
Scottsdale	Cactus	Thunderbird	MJA	MJA-S	6	6	44,600	0.62	44,000	0.61
Scottsdale	Thunderbird	Butherus	MJA	MJA-U	6	6	42,800	0.60	44,400	0.61
Scottsdale	Butherus	Bell/FLW	MJA	MJA-U	6	6	39,900	0.66	44,100	0.74
Scottsdale	FLW	Loop 101	MJA	MJA-U	4	6	47,000	0.65	52,900	0.74
Scottsdale	Loop 101	Thompson Peak Pkwy	MJA	MJA-U	4	6	48,400	1.01	62,200	0.86

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Scottsdale	Thompson Peak Pkwy	Deer Valley	MJA	MJA-S	4	6	32,000	0.80	58,600	0.98
Scottsdale	Deer Valley	Pinnacle Peak	MJA	MJA-S	4	6	28,800	0.73	51,400	0.86
Scottsdale	Pinnacle Peak	Happy Valley	MJA	MJA-R	4	6	29,700	0.74	43,500	0.73
Scottsdale	Happy Valley	Jomax	MJA	MNA-R	4	4	29,000	0.81	43,300	0.80
Scottsdale	Jomax	Dynamite	MJA	MNA-R	4	4	26,000	0.73	43,200	0.80
Scottsdale	Dynamite	Dixileta	MJA	MNA-R	4	4	25,200	0.70	39,400	0.73
Scottsdale	Dixileta	Lone Mountain	MJA	MNA-R	4	4	24,100	0.67	34,200	0.63
Scottsdale	Lone Mountain	Westland	MJA	MNA-R	4	4	22,400	0.62	35,300	0.65
Scottsdale	Westland	Carefree Hwy	MJA	MNA-R	4	4	17,700	0.49	26,900	0.50

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Scottsdale	Carefree Hwy	Boulder Pass	MJA	MNA-R	4	4	17,700	0.49	26,600	0.49
Drinkwater	Scottsdale	Osborn	MJA	MJA-U	5	4	9,200	0.17	10,400	0.19
Drinkwater	Osborn	Indian School	MJA	MJA-U	5	4	14,100	0.23	16,100	0.27
Drinkwater	Indian School	Scottsdale	MJA	MJA-U	5	4	11,100	0.19	13,600	0.23
73 <sup>rd</sup> Street	Thunderbird	Butherus	MNC	MNC-U	2	2	NA	NA	NA	NA
73 <sup>rd</sup> Street/Dial	Butherus	Paradise	MNC	MNC-U	2	2	NA	NA	NA	NA
74th Street	Gold Dust	Mescal	MJC	MJC-U	4	4	9,500	0.22	8,800	0.20
Miller	McKellips	McDowell	MNC	MNC-S	2	2	5,600	0.35	7,600	0.47
Miller	McDowell	Oak	MNC	MNC-S	2	2	12,900	0.72	14,500	0.80

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Miller	Oak	Thomas	MNC	MNC-S	2	2	12,300	0.68	13,500	0.75
Miller	Thomas	Osborn	MNC	MNC-S	2	2	11,000	0.61	12,000	0.67
Miller	Osborn	2nd Street	MNC	MJC-U	2	2	12,400	0.69	14,400	0.80
Miller	2nd Street	Indian School	MJC	MJC-U	4	4	11,300	0.31	12,500	0.35
Miller	Indian School	Camelback	MJC	MJC-U	4	4	15,100	0.42	15,200	0.42
Miller	Camelback	Chaparral	MNC	MNC-S	2	2	8,800	0.55	8,700	0.54
Miller/ Jackrabbit	Chaparral	Hayden	MNC	MNC-S	2	2	3,500	0.22	4,300	0.27
Miller	Mountain View	Shea	MNC	MNC-S	2	2	NA	NA	NA	NA
Miller	Shea	Cactus	MNC	MNC-R	2	2	NA	NA	NA	NA



### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
76th Street	Paradise	FLW	MNC	MNC-S	2	2	5,800	0.36	6,900	0.43
76th Street	Princess	Center	MJC	MJC-U	0	4	NA	NA	13,600	0.31
76th Street	Center	Thompson Peak Pkwy	MNC	MNC-S	2	2	900	0.05	9,100	0.60
78th Street	Miller/ Jackrabbit	McDonald	MNC	MNC-S	2	2	NA	NA	NA	NA
78th Street	Mountain View	Shea	MNC	MNC-S	2	2	NA	NA	NA	NA
Hayden	McKellips	McDowell	MJA	MJA-S	6	6	31,400	0.52	40,300	0.67
Hayden	McDowell	Thomas	MJA	MJA-S	6	6	32,100	0.53	38,500	0.64
Hayden	Thomas	Indian School	MJA	MJA-S	6	6	32,700	0.45	37,200	0.52
Hayden	Indian School	Camelback	MJA	MJA-S	6	6	29,700	0.41	32,800	0.45

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Hayden	Camelback	Chaparral	MJA	MJA-S	6	6	35,800	0.50	36,700	0.51
Hayden	Chaparral	McDonald	MJA	MJA-S	6	6	34,200	0.60	35,600	0.59
Hayden	McDonald	Indian Bend	MJA	MJA-S	6	6	31,600	0.53	33,100	0.55
Hayden	Indian Bend	Via de Ventura	MJA	MJA-S	6	6	33,000	0.55	32,300	0.54
Hayden	Via de Ventura	Mountain View	MJA	MJA-S	6	6	24,900	0.41	29,100	0.49
Hayden	Mountain View	Shea	MJA	MJA-S	6	6	24,700	0.41	27,800	0.46
Hayden	Shea	Cactus	MNA	MNA-S	4	4	20,800	0.52	19,500	0.49
Hayden	Cactus	Thunderbird	MNA	MNA-S	4	4	17,100	0.43	16,500	0.41
Hayden	Thunderbird/ Redfield	Raintree	MNA	MJA-S	4	6	24,400	0.61	27,700	0.69

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Hayden	Raintree	FLW	MNA	MJA-S	4	4	15,400	0.39	17,500	0.44
Greenway-Hayden	FLW	Bell	MNA	MNA-U	4	4	24,900	0.35	28,300	0.60
Hayden	Bell	Union Hills	MNA	MNA-S	4	4	14,100	0.35	19,800	0.49
Hayden	Union Hills	Loop 101	MJA	MJA-U	4	6	19,400	0.38	33,100	0.46
Hayden	Loop 101	Center Drive	MNA	MJA-U	4	6	25,600	0.52	32,100	0.59
Hayden	Center Drive	Thompson Peak Pkwy	MNA	MNA-U	4	4	25,600	0.52	26,900	0.59
Hayden-Miller	Thompson Peak Pkwy	Deer Valley	MNA	MNA-S	4	4	9,800	0.25	21,400	0.54
Hayden-Miller	Deer Valley	Pinnacle Peak	MNA	MNA-S	4	4	8,400	0.24	18,500	0.46

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Hayden- Miller	Pinnacle Peak	Happy Valley	MJC	MNC-R	2	2	NA	NA	6,900	0.19
Hayden	Pinnacle Peak	Happy Valley	MNC	Local	2	2	1,000	0.06	1,300	0.08
Hayden- Miller	Happy Valley	Jomax	MJC	MNC-R	0	2	NA	NA	4,300	0.13
Hayden- Miller	Jomax	Dynamite	MJC	MNC-R	0	2	NA	NA	3,700	0.11
Perimeter	Bell	Union Hills	MJC	MJC-S	4	4	200	0.01	2,600	0.07
82nd Street	McDonald	Rose Lane	MNC	MNC-S	2	2	NA	NA	NA	NA
Granite Reef	Roosevelt	McDowell	MNC	MNC-S	2	2	2,900	0.18	3,600	0.23
Granite Reef	McDowell	Oak	MNC	MNC-S	2	2	4,000	0.25	4,800	0.30
Granite Reef	Oak	Thomas	MNC	MNC-S	2	2	2,200	0.14	2,700	0.17

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Granite Reef	Thomas	Osborn	MNC	MNC-S	2	2	1,300	0.08	2,600	0.17
Granite Reef	Indian School	Camelback	MNC	MNC-S	2	2	3,600	0.23	5,600	0.35
Granite Reef	Camelback	Chaparral	MNC	MNC-S	2	2	5,300	0.33	5,000	0.31
Granite Reef	Chaparral	McDonald	MNC	MNC-S	2	2	4,100	0.26	4,500	0.28
Granite Reef	McDonald	AZ Canal	MNC	MNC-S	2	2	5,600	0.35	5,500	0.34
84th Street	Shea	Cactus	MNC	MNC-S	2	2	NA	NA	NA	NA
84th Street	Cactus	Thunderbird	MNC	MNC-S	2	2	1,200	0.07	1,300	0.08
87th Street	Northsight	Raintree	MJC	MJC-S	4	4	100	0.00	100	0.00
Northsight	Hayden	Raintree	MJC	MJC-S	4	4	8,200	0.23	7,600	0.21

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Northsight	Raintree	Loop 101	MJC	MJC-S	4	4	7,700	0.22	10,700	0.30
Pima	McDowell	Thomas	MNA	MNA-S	2	4	7,000	0.35	15,000	0.37
Pima	Thomas	Indian School	MNA	MNA-S	2	4	8,200	0.41	17,700	0.44
Pima	Indian School	Chaparral	MNA	MNA-S	2	4	7,000	0.35	14,300	0.35
Pima	Chaparral	McDonald	MNA	MNA-S	2	4	9,000	0.45	15,500	0.39
Pima	McDonald	Indian Bend	MNA	MNA-S	2	4	9,600	0.48	20,100	0.50
Pima	Indian Bend	Via de Ventura	MNA	MNA-S	2	4	11,100	0.55	22,200	0.55
Pima	Via de Ventura	Via Linda	MNA	MNA-S	4	4	24,100	0.60	41,000	1.02
Pima	Loop 101	Thompson Peak Parkway	MJA	MJA-S	6	6	34,900	0.67	45,800	0.76

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Pima	Thompson Peak Parkway	Pinnacle Peak	MJA	MJA-S	4	6	39,700	0.99	60,500	1.01
Pima	Pinnacle Peak	Happy Valley	MJA	MJA-R	4	6	33,600	0.93	55,900	0.93
Pima	Happy Valley	Jomax	MJA	MNA-R	4	4	18,800	52.00	30,700	0.57
Pima	Jomax	Dynamite	MJA	MNA-R	4	4	18,500	0.51	31,900	0.59
Pima	Dynamite	Lone Mountain	MJA	MNA-R	2	4	13,200	0.73	26,200	0.48
Pima	Lone Mountain	Stagecoach Pass	MJA	MNA-R	2	4	10,300	0.57	19,400	0.36
90th Street	Via Linda	Shea	MNA	MNA-U	4	4	15,900	0.33	18,100	0.37
90 <sup>th</sup> Street	Shea	Desert Cove	MNC	Local	2	2	NA	NA	NA	NA

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
90th Street	Cactus	Thunderbird	MNC	MNC-S	2	2	1,300	0.09	1,500	0.10
90th Street	Raintree	FLW	MJC	MJC-S	4	4	10,000	0.28	7,700	0.21
91 <sup>st</sup> Street	Via Linda	Mountain View	MNC	MNC-S	2	2	NA	NA	NA	NA
91 <sup>st</sup> Street	Bahia	Bell	MNC	MJC-S	2	4	NA	NA	NA	NA
91st Street	Bell	Union Hills	MJC	MJC-S	2	4	300	0.02	7,900	0.22
92nd Street	Sweetwater	Thunderbird	MNC	MNC-S	2	2	1,100	0.07	1,500	0.09
92nd Street	Thunderbird	Raintree	MNC	MNC-S	4	2	1,100	0.03	1,400	0.09
92nd Street	Raintree	FLW	MJC	MNC-S	4	2	800	0.02	1,200	0.03
92 <sup>nd</sup> /94 <sup>th</sup> Street	Shea	Cactus	MNA	MNA-S	4	4	13,900	0.35	14,900	0.37



## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
92 <sup>nd</sup> Street	Pinnacle Peak	Verada Sonada	MNC	MNC-R	2	2	NA	NA	NA	NA
92 <sup>nd</sup> Street	Verada Sonada	Happy Valley	MNC	MNC-R	0	2	NA	NA	NA	NA
Los Gatos/93 <sup>rd</sup> Street	Pima	Pinnacle Peak	MNC	MNC-S	2	2	NA	NA	NA	NA
94th Street	Cactus	Thunderbird	MNA	MNA-S	4	4	12,200	0.30	14,400	0.36
94th Street	Thunderbird	Redfield	MNA	MNA-S	6	6	10,400	0.17	12,700	0.21
Thompson Peak Parkway	Redfield	Raintree	MJA	MJA-S	6	6	6,900	0.16	8,100	0.14
Thompson Peak	Raintree	FLW	MNA	MJA-S	6	6	16,800	0.28	18,500	0.31
94th Street	Bahia	Union Hills	MJC	MNC-S	2	2	1,900	0.12	3,800	0.24

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
96th Street	Via Linda	Shea	MJC	MJC-S	4	4	10,400	0.42	12,400	0.34
96th Street	Shea	Cactus	MNC	MNC-S	2	2	4,500	0.28	4,900	0.27
96th Street	Cactus	Thunderbird	MNC	MNC-S	2	2	3,500	0.15	2,900	0.18
98th Street	McDowell Mountain Ranch	Bell	MJC	MJC-S	2	4	1,800	0.10	4,200	0.11
100th Street	Cactus	Sweetwater	MNC	MNC-S	2	2	2,400	0.15	1,800	0.11
100th Street	Sweetwater	FLW	MNC	MNC-S	2	2	1,600	0.10	1,200	0.08
100th Street	FLW	Thompson Peak Pkwy	MJC	MNC-S	4	2	5,300	0.15	8,900	0.28
104th Street	Mountain View	Via Linda	MNA	L-S	2	2	4,600	0.23	5,300	0.13

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
104th Street	Shea	Cactus	MNC	MNC-S	2	2	2,600	0.16	2,400	0.15
104th Street	Cactus	Sweetwater	MNC	MNC-S	2	2	1,400	0.09	1,700	0.11
Alma School	S of Happy Valley	Happy Valley	MNC	MNC-R	2	2	NA	NA	NA	NA
Alma School	Happy Valley	Jomax	MJC	MJC-R	4	4	6,900	0.21	11,500	0.35
Alma School	Jomax	Pinnacle Vista	MJC	MJC-R	2	4	6,600	0.41	8,800	0.27
Alma School	Pinnacle Vista	Dynamite	MJC	MJC-R	4	4	5,500	0.17	7,500	0.23
Alma School	Dynamite	N of Dynamite	MNC	MNC-R	2	2	NA	NA	NA	NA
105th Street	McDowell Mountain Ranch	Palm Ridge	MNC	MNC-S	2	2	3,600	0.23	4,800	0.30

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Lone Mountain Parkway	Stagecoach Pass	Cave Creek	MJC	MNC-R	2	2	200	0.01	400	0.01
108th Street	Via Linda	Cactus	MNC	MNC-S	2	2	1,400	0.09	1,400	0.09
110th Street	Turquoise	Shea	MNC	MNC-S	2	2	4,400	0.27	4,700	0.29
110th Street / Altadena	Shea	FLW	MNC	MNC-S	2	2	2,800	0.18	3,800	0.24
Turquoise	Mountain View	110 <sup>th</sup> Street	MNC	MNC-S	2	2	NA	NA	NA	NA
114th Street / Cochise / 117th W	Mountain View	Shea	MNC	MNC-S	2	2	1,500	0.09	2,000	0.12
118th Street	Whispering Wind	Dynamite/ Rio Verde	MJC	MNC-R	0/2	2	600	0.04	4,900	0.15

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
124th Street	Mountain View	Shea	MNC	MNC-S	2	2	2,700	0.17	4,200	0.27
124th Street	Shea	Via Linda	MJC	MJC-S	4	4	5,500	0.15	5,400	0.15
124th Street	Via Linda	Cactus	MJC	MJC-S	4	4	5,100	0.14	7,800	0.22
128th Street	Via Linda	Cactus	MNC	L-S	2	2	NA	NA	NA	NA
128th Street	S of Alameda	Rio Verde	MNC	MNC-R	0	2	100	0.00	2,900	0.20
130th Street	S of Shea	Shea	MNC	MNC-S	2	2	NA	NA	NA	NA
130th Street	Shea	Via Linda	MJC	MJC-S	2	4	1,700	0.09	3,200	0.09
132nd Street	Via Linda	Paradise	MNC	Local	2	2	NA	NA	NA	NA
136th Street	City Limits	Shea	MNA	MNA-S	2	2	NA	NA	NA	NA

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
136th Street	Shea	Via Linda	MNA	MNA-S	4	4	5,100	0.13	10,900	0.27
136th Street	Rio Verde	Lone Mountain	MNC	MNC-R	2	2	100	0.00	17	0.00
EAST-WEST STREETS (from south to north)										
McKellips	Scottsdale	Hayden	MNA	MNA-S	4	4	12,000	0.30	13,200	0.33
McKellips	Hayden	Granite Reef	MNA	MNA-S	4	4	26,800	0.67	27,200	0.68
Roosevelt	Scottsdale	Hayden	MNC	MNC-S	2	2	2,300	0.15	3,000	0.19
Roosevelt	Hayden	Granite Reef	MNC	MNC-S	2	2	2,900	0.18	3,700	0.23
Roosevelt	Granite Reef	85 <sup>th</sup> Street	MNC	MNC-S	2	2	NA	NA	NA	NA

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
McDowell	64th Street	Scottsdale	MJA	MJA-U	6	6	42,300	0.65	48,100	0.74
McDowell	Scottsdale	Miller	MJA	MJA-U	6	6	29,700	0.49	33,100	0.55
McDowell	Miller	Granite Reef	MJA	MJA-S	6	6	34,000	0.57	36,900	0.61
McDowell	Granite Reef	Pima	MJA	MJA-S	6	6	41,900	0.70	48,500	0.81
Oak	56th Street	64th Street	MNC	MNC-S	2	2	3,700	0.23	4,400	0.27
Oak	68th Street	Scottsdale	MNC	MNC-S	2	2	1,600	0.10	2,200	0.14
Oak	Scottsdale	Miller	MNC	MNC-S	2	2	700	0.04	1,600	0.10
Oak	77th Street	Hayden	MNC	MNC-S	2	2	400	0.02	500	0.03
Oak	Hayden	Granite Reef	MNC	MNC-S	2	2	1,700	0.11	1,500	0.09

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Thomas	56th Street	64th Street	MNA	MNA-S	5	5	28,200	0.56	33,000	0.66
Thomas	64th Street	Scottsdale	MJA	MJA-S	5	5	32,000	0.64	36,700	0.73
Thomas	Scottsdale	Miller	MJA	MJA-S	5	5	27,700	0.63	31,700	0.71
Thomas	Miller	Hayden	MNA	MNA-S	4	4	30,600	0.76	33,800	0.84
Thomas	Hayden	Pima	MNA	MNA-S	4	4	33,300	0.83	36,900	0.92
Osborn	64th Street	68th Street	MNC	MNC-S	2	2	5,800	0.37	6,800	0.42
Osborn	68th Street	Scottsdale	MJC	MJC-U	4	4	7,000	0.21	6,800	0.42
Osborn	Scottsdale	Drinkwater	MJC	MJC-U	4	4	10,000	0.23	8,900	0.21
Osborn	Drinkwater	Miller	MJC	MJC-U	4	4	14,400	0.33	16,600	0.38



### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Osborn	Miller	Hayden	MJC	MJC-S	4	4	15,800	0.44	19,000	0.53
Osborn	Hayden	82nd Street	MNC	MNC-S	2	2	2,800	0.17	3,900	0.24
Osborn	82nd Street	Granite Reef	MNC	MNC-S	2	2	3,300	0.20	4,400	0.28
Indian School	64th Street	68th Street	MJA	MJA-S	6	6	26,200	0.44	36,500	0.61
Indian School	68th Street	Goldwater	MJA	MJA-S	6	6	34,500	0.58	41,600	0.69
Indian School	Goldwater	Scottsdale	MNA	MNA-U	4	4	20,600	0.43	23,800	0.50
Indian School	Scottsdale	Drinkwater	MNA	MNA-U	4	4	23,100	0.49	24,600	0.51
Indian School	Drinkwater	Hayden	MNA	MNA-S	4	4	34,400	0.86	37,200	0.93
Indian School	Hayden	82nd Street	MNA	MNA-S	4	4	34,700	0.86	39,200	0.98

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Indian School	82nd Street	Granite Reef	MNA	MNA-S	4	4	35,600	0.89	39,600	0.99
Indian School	Granite Reef	Pima	MNA	MNA-S	4	4	39,800	0.99	46,400	1.16
Camelback	64th Street	66th Street	MNA	MNA-S	4	4	34,000	0.85	38,200	0.95
Camelback	66th Street	Scottsdale	MNA	MNA-U	4	4	29,500	0.44	33,400	0.53
Camelback	Scottsdale	Miller	MNA	MNA-U	4	4	21,500	0.54	24,300	0.61
Camelback	Miller	Hayden	MNA	MNA-S	4	4	22,800	0.57	27,800	0.70
Camelback	Hayden	Granite Reef	MNC	MNC-S	2	2	6,500	0.41	8,400	0.52
Chaparral	66th Street	Scottsdale	MNC	MNC-S	2	2	5,600	0.35	6,400	0.40
Chaparral	Scottsdale	Miller	MJC	MJC-S	4	4	15,600	0.43	17,500	0.48

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Chaparral	Miller	78th Street	MJC	MNC-S	2	2	15,500	0.85	16,700	0.93
Chaparral	78th Street	Hayden	MJC	MJC-S	4	4	18,900	0.53	20,800	0.58
Chaparral	Hayden	Granite Reef	MJC	MJC-S	4	4	22,200	0.62	24,300	0.68
Chaparral	Granite Reef	Pima	MJC	MJC-S	4	4	26,200	0.73	30,000	0.83
McDonald	City limits	Scottsdale	MNC	MNC-S	2	2	14,900	0.37	17,100	0.43
McDonald	Scottsdale	78th Street	MNA	MNA-S	4	4	18,800	0.47	21,400	0.54
McDonald	78th Street	Hayden	MNA	MNA-S	4	4	20,500	0.51	23,600	0.59
McDonald	Hayden	Granite Reef	MNA	MNA-S	4	4	17,600	0.44	22,000	0.55
McDonald	Granite Reef	Pima	MNA	MNA-S	4	4	22,800	0.57	28,600	0.72

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Valley Vista	Hayden	82 <sup>nd</sup> Street	MNC	Local	2	2	NA	NA	NA	NA
Lincoln	Scottsdale	Miller	MNC	MNC-S	2	2	1,100	0.03	1,200	0.04
Indian Bend	Scottsdale	Hayden	MNA	MNA-S	2	4	14,400	0.72	21,500	0.54
Indian Bend	Hayden	Pima	MNA	MNA-S	4	4	13,700	0.34	22,600	0.56
McCormick Parkway	Scottsdale	Hayden	MJC	MJC-S	4	4	4,800	0.13	4,300	0.12
McCormick Parkway	Hayden	Via Paseo del Norte	MNC	MNC-S	2	2	NA	NA	NA	NA
Via Paseo del Norte	McCormick Parkway	Via Paseo del Norte	MNC	Local	2	2	NA	NA	NA	NA
Via Paseo del Sur	McCormick Parkway	Via Paseo del Norte	MNC	Local	2	2	NA	NA	NA	NA

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Via de la Entrada	Hayden	Via Paseo del Sur	MNC	MNC-S	2	2	NA	NA	NA	NA
Via del Belleza/Via del Para	Via Paseo del Sur	Via Pasol del Norte	MNC	MNC-S	2	2	NA	NA	NA	NA
Eastwood/Via de Ventura	Scottsdale	Doubletree	MNC	MNC-S	2	2	3,500	0.22	3,600	0.23
Doubletree/Via de Ventura	Scottsdale	Hayden	MNA	MNA-S	4	4	16,800	0.42	18,400	0.46
Via de Ventura	Hayden	Pima	MNA	MNA-S	4	4	28,900	0.72	34,900	0.87
Via Linda	Via de Ventura	Hayden	MNC	MNC-S	2	2	7,100	0.44	7,200	0.45
Via Linda	Hayden	87th Street	MNC	MNC-S	2	2	5,100	0.32	6,500	0.40
Via Linda	87th Street	90th Street	MNC	MNC-S	2	2	7,200	0.37	8,000	0.44

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Via Linda	90th Street	96th Street	MNA	MNA-S	4	4	26,800	0.67	32,500	0.81
Via Linda	96th Street	Shea	MNA	MNA-S	4	4	16,000	0.40	20,800	0.52
Via Linda	Shea	FLW	MNA	MNA-S	4	4	10,300	0.26	15,300	0.38
Via Linda	FLW	120th Street	MNA	MNA-S	4	4	19,100	0.49	28,500	0.73
Via Linda	120th Street	124th Street	MJC	MJC-S	4	4	12,600	0.35	20,100	0.56
Via Linda	124th Street	132nd Street	MJC	MJC-S	4	4	5,100	0.14	11,800	0.33
Via Linda	132nd Street	136th Street	MJC	MNC-S	2	2	4,800	0.27	12,000	0.33
Via Linda	136th Street	Canyon Road/145th Way	MNC	MNC-S	2	2	7,800	0.49	12,700	0.79
Mountain View	Scottsdale	Hayden	MJC	MNA-S	4	4	9,400	0.26	6,700	0.19

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Mountain View	Hayden	90th Street	MJC	MNA-S	4	4	13,700	0.38	16,400	0.46
Mtn. View/ 92nd Street	90th Street	Shea	MNA	MNA-U	4	4	13,600	0.32	17,500	0.41
Mountain View	92nd Street	96th Street	MNC	MNC-S	2	2	5,400	0.34	6,900	0.43
Mountain View	96th Street	Via Linda	MNC	MNC-S	2	2	3,600	0.22	3,700	0.23
Mountain View	Via Linda	104th Street	MNC	MNC-S	2	2	4,100	0.26	5,000	0.31
Mountain View	104th Street	109th Place	MNC	MNC-S	2	2	5,600	0.35	7,200	0.45
Mountain View	109th Place	120th Street	MNC	MNC-S	2	2	3,700	0.23	5,100	0.32
Mountain View	120th Street	124th Street	MNC	MNC-S	1	2	2,100	0.13	3,200	0.20
Gold Dust	Scottsdale	74th Street	MJC	MJC-U	4	4	1,300	0.03	900	0.02

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Shea	64th Street	70th Street	MJA	MJA-S	6	6	51,000	0.85	51,500	0.86
Shea	70th Street	74th Street	MJA	MJA-U	6	6	33,900	0.47	34,600	0.48
Shea	74th Street	Hayden	MJA	MJA-S	6	6	47,000	0.78	47,900	0.80
Shea	Hayden	90th Street	MJA	MJA-S	6	6	55,600	0.93	60,300	1.00
Shea	90th Street	96th Street	MJA	MJA-S	6	6	47,700	0.79	53,400	0.89
Shea	96th Street	104th Street	MJA	MJA-S	6	6	44,800	0.75	52,900	0.88
Shea	104th Street	110th Street	MJA	MJA-S	6	6	41,300	0.69	49,200	0.82
Shea	110th Street	120th Street	MJA	MJA-S	6	6	39,600	0.66	51,800	0.86
Shea	120th Street	city limits	MJA	MJA-S	6	6	38,800	0.65	50,600	0.84



### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Desert Cove	90 <sup>th</sup> Street	92 <sup>nd</sup> Street	MNC	MNC-S	2	2	NA	NA	NA	NA
Cholla	64th Street	Scottsdale	MNC	MNC-R	2	2	4,500	0.28	4,300	0.27
Cholla	92nd Street	96th Street	MNC	MNC-R	2	2	1,100	0.08	1,900	0.13
Cholla	96th Street	100th Street	MNC	MNC-R	2	2	2,800	0.19	3,900	0.27
Cholla	100th Street	104th Street	MNC	MNC-R	2	2	900	0.06	1,600	0.11
Cholla	104th Street	Via Linda	MNC	MNC-R	2	2	1,400	0.09	1,800	0.13
Cactus	60th Street	64th Street	MJC	MJC-S	4	4	27,700	0.77	27,000	0.75
Cactus	64th Street	Scottsdale	MJC	MJC-S	4	4	26,100	0.73	26,500	0.74
Cactus	Scottsdale	Hayden	MJC	MJC-S	4	4	27,600	0.77	26,900	0.75

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Cactus	Hayden	96th Street	MJC	MJC-S	4	4	16,600	0.59	21,100	0.59
Cactus	96th Street	104th Street	MNC	MNC-R	2	2	3,900	0.27	5,100	0.36
Cactus	104th Street	108th Street	MNC	MNC-R	2	2	2,300	0.16	3,200	0.22
Cactus	108th Street	FLW	MNC	MNC-R	4	2	2,200	0.15	3,100	0.21
Cactus	124 <sup>th</sup> Street	128 <sup>th</sup> Street	MNC	MNC-S	2	2	NA	NA	NA	NA
Sweetwater	Scottsdale	Hayden	MNC	MNC-S	2	2	6,400	0.40	5,200	0.33
Sweetwater	90th Street	96th Street	MJC	MNC-S	2/4	2	1,400	0.05	1,800	0.05
Sweetwater	96th Street	FLW	MNC	MNC-S	2	2	1,700	0.11	2,300	0.14
Thunderbird/ Redfield	Scottsdale	Hayden	MJC	MJC-S	2	4	14,500	0.70	18,700	0.52

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Thunderbird	Hayden	84th Street	MNC	MNC-S	2	2	900	0.06	1,000	0.06
Thunderbird	Loop 101	FLW	MNA	MNA-S	4	4	6,400	0.16	9,500	0.24
Redfield	Thompson Peak Pkwy	Raintree	MJC	MJC-S	4	4	9,600	0.27	12,900	0.36
Raintree	78th Way	Hayden	MNA	MNA-S	2	4	NA	NA	NA	NA
Raintree	Hayden	Northsight	MNA	MJA-S	4	6	14,800	0.37	17,400	0.43
Raintree	Northsight	Loop 101	MNA	MJA-S	4	4	23,600	0.51	24,500	0.61
Raintree	Loop 101	Thompson Peak Pkwy	MNA	MNA-S	4	4	26,000	0.61	28,800	0.72
Raintree	Thompson Peak Pkwy	FLW	MNA	MNA-S	4	4	6,000	0.15	7,000	0.18
Raintree	FLW	100th Street	MNC	MNC-S	2	2	NA	NA	NA	NA

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Butherus	Scottsdale	Airport Drive	MNA	MNA-S	4	4	9,300	0.23	10,400	0.26
Greenway-Hayden Loop	Scottsdale	73rd Street	MNA	MNA-U	4	4	10,000	0.21	9,500	0.20
Greenway-Hayden Loop	73rd Street	79th Street	MNA	MNA-U	4	4	13,300	0.28	11,400	0.24
Greenway-Hayden Loop	79th Street	FLW	MNA	MNA-U	4	4	13,900	0.29	14,100	0.29
Paradise	Scottsdale	76th Street	MNC	MNC-S	2	2	4,700	0.29	4,700	0.30
Paradise	76th Street	Greenway-Hayden Loop	MNC	MNC-S	2	2	5,400	0.34	5,600	0.35
Paradise	98th Street	Thompson Peak Pkwy	MNC	Local	2	2	NA	NA	NA	NA
FLW	Scottsdale	76th Street	MJA	MJA-S	6	6	35,000	0.58	39,100	0.65

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
FLW	76th Street	Greenway-Hayden Loop	MJA	MJA-S	6	6	41,200	0.69	40,400	0.67
FLW	Greenway-Hayden Loop	Loop 101	MJA	MJA-S	6	6	47,600	0.79	50,800	0.85
FLW	Loop 101	Thompson Peak Pkwy	MJA	MJA-S	6	6	39,200	0.65	39,400	0.66
FLW	Thompson Peak Pkwy	Thunderbird	MJA	MJA-S	6	6	28,100	0.46	29,100	0.49
FLW	Thunderbird	Cactus	MNA	MNA-S	4	4	32,500	0.76	34,900	0.87
FLW	Cactus	Via Linda	MNA	MNA-S	4	4	31,700	0.79	37,600	0.94
FLW	Via Linda	Shea	MNA	MNA-S	4	4	15,400	0.39	18,800	0.47
100 <sup>th</sup> Street	Frank Lloyd Wright	Thompson Peak	MJC	MNC	4	2	3,500	0.10	2,800	0.08

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
McDowell Mountain Ranch	98 <sup>th</sup> Street	Thompson Peak	MJC	MJC-S	2/4	4	3,500	0.10	6,300	0.17
Bahia	Loop 101 frontage	90th Street	MNC	MNC-S	2	2	NA	NA	NA	NA
Bahia	90 <sup>th</sup> Street	94 <sup>th</sup> Street	MNC	MNC-S	2	2	NA	NA	NA	NA
Bell	Hayden	Loop 101	MNA	MNA-S	4	4	7,500	0.19	8,500	0.21
Bell	Loop 101	94th Street	MNA	MNA-S	4	4	14,500	0.35	23,900	0.60
Bell	94th Street	Thompson Peak Pkwy	MNA	MNA-S	2	4	9,400	0.38	12,100	0.30
Bell/McDowell Mtn Ranch	Bell	105th Street	MNC	MNC-S	4	4	4,900	0.16	4,700	0.13
Bell/McDowell Mtn Ranch	105th Street	Thompson Peak Pkwy	MJC	MJC-S	4	4	12,400	0.35	11,900	0.33

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Princess	Scottsdale	76 <sup>th</sup> Street	MJC	MJC-U	2	4	300	0.00	9,400	0.23
Princess	76th Street	Union Hills	NA	MJC-U	0	4	NA	NA	900	0.03
Princess	Hayden	Pima	MNA	MNA-S	4/6	4/6	14,000	0.31	18,100	0.36
Center	Scottsdale	Pima	MNA	MNA-U	4	4	NA	NA	13,676	0.28
Union Hills	Pima	Thompson Peak Pkwy	MNA	MNA-S	4	4	13,400	0.38	12,000	0.30
Union Hills	Scottsdale	Hayden	MJC	MJC-U	2	4	5,400	0.13	13,204	0.31
Union Hills	Hayden	Perimeter	MNA	MJC-U	2	4	1,200	0.05	3,500	0.08
Hualapai	Center	Pima	MJC	MJC-U	2	4	1,000	0.02	6,000	0.14
Thompson Peak Pkwy	Scottsdale	Hayden	MNA	MNA-S	4	4	14,300	0.36	18,600	0.46

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Thompson Peak Pkwy	Hayden	Pima	MNA	MNA-S	4	4	15,800	0.39	21,900	0.55
Thompson Peak Pkwy	Pima	Union Hills	MNA	MNA-S	4	4	5,400	0.17	10,100	0.25
Thompson Peak Pkwy	Union Hills	Bell	MNA	MNA-S	4	4	4,600	0.11	9,500	0.24
Thompson Peak Pkwy	Bell	100 <sup>th</sup> Street	MJA	MNA-S	4	4	10,100	0.25	14,400	0.24
Thompson Peak Pkwy	100 <sup>th</sup> Street	FLW	MJA	MJA-S	6	6	15,800	0.26	19,500	0.32
Grayhawk	Scottsdale	Hayden	MNC	MNC-S	2	2	NA	NA	NA	NA
Deer Valley	Scottsdale	Hayden/ Miller	MNC	MNC-S	2	2	2,400	0.15	3,800	0.24
Adobe	Scottsdale	Miller	MNC	MNC-S	2	2	NA	NA	NA	NA



### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Williams	Scottsdale	Miller	MJC	MJC-S	2	4	2,700	0.15	3,900	0.11
Williams	Miller	Pinnacle Peak	MJC	MNC-S	2	2	3,500	0.19	5,200	0.14
Pinnacle Peak	Scottsdale	Pima	MNA	MNA-R	2	4	12,500	0.66	21,500	0.60
Pinnacle Peak	Pima	E. of Pima	MNC	MNC-R	2	2	9,000	0.48	9,900	0.52
Happy Valley	Scottsdale	Pima	MNA	MJC-R	2	4	3,300	0.18	10,000	0.28
Happy Valley	Pima	Alma School	MNA	MNA-R	2	4	17,400	0.97	20,900	0.58
Happy Valley	Alma School	Whispering Wind	MNA	MNA-R	4	4	3,300	0.09	10,800	0.30
Jomax	56th Street	64th Street	MNC	MNC-R	0	2	600	0.04	7,300	0.23
Jomax	64th Street	Scottsdale	MNC	MNC-R	2	2	1,800	0.11	9,300	0.29

### Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Jomax	Scottsdale	Pima	MNC	MNC-R	2	2	1,700	0.12	4,200	0.29
Jomax	Alma School	118th Street	MJC	MNC-R	2	2	3,000	0.19	5,100	0.16
Dynamite	56th Street	64th Street	MJA	MNA-R	2	4	8,400	0.42	24,500	0.41
Dynamite	64th Street	Scottsdale	MJA	MNA-R	2	4	8,700	0.43	25,300	0.43
Dynamite	Scottsdale	Pima	MJA	MNA-R	2	4	7,800	0.43	20,300	0.38
Dynamite	Pima	Alma School	MJA	MNA-R	4	4	13,300	0.37	30,300	0.56
Dynamite/Rio Verde	Alma School	128th Street	MJA	MNA-R	4	4	7,100	0.36	26,200	0.48
Rio Verde	128th Street	136th Street	MJA	MNA-R	2	4	7,300	0.40	26,700	0.49
Rio Verde	136th Street	city limits	MJA	MNA-R	2	4	7,200	0.38	26,200	0.46

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Dixileta	66th Street	Scottsdale	MNC	MNC-R	2	2	4,200	0.28	4,400	0.30
Dixileta	Scottsdale	Pima	MNC	MNC-R	2	2	1,100	0.07	1,500	0.10
Lone Mountain	68th Street	Scottsdale	MNA	MNC-R	2	2	8,100	0.43	16,000	0.43
Lone Mountain	Scottsdale	Pima	MNA	MNC-R	2	2	4,200	0.23	8,200	0.23
Dove Valley	56th Street	62nd Street	MNC	MNC-R	0	2	500	0.03	1,600	0.10
Westland	Scottsdale	Hayden	MNA	MNA-R	4	4	4,600	0.13	6,200	0.17
Westland	Hayden	Pima	MNA	MNC-R	2	2	3,500	0.15	4,100	0.11
Carefree Hwy	56th Street	Scottsdale	MNA	MNA-R	2	4	13,000	0.72	26,200	0.73
Legend Trail	Pima	Stagecoach Pass	MJC	MJC-R	4	4	2,200	0.07	2,200	0.07

## Street Functional Classification

Road Name	From	To	Existing 2030 FC	Recommended 2030 FC	Existing Lanes	Recommended 2030 Lanes	2006 Daily Trips	2006 Volume/ Capacit y Rates	2030 Projected Daily Trips	2030 Volume/ Capacit y Rates
Stagecoach Pass	Windmill	Pima	MJC	MNC-R	2	2	500	0.03	200	0.01
Stagecoach Pass	Pima	Legend Trail	MJC	MNC-R	2	2	1,900	0.12	2,900	0.09
Stagecoach Pass	Legend Trail	Lone Mountain Pkwy	MJC	MNC-R	2	2	100	0.00	100	0.00
Cave Creek	City limits	Lone Mountain Pkwy	MJC	MJC-R	4	4	9,200	0.28	16,200	0.50
Cave Creek	Lone Mountain Pkwy	Bartlett Dam	MJC	MNC-R	2	2	4,000	0.25	6,400	0.20
Cave Creek	Bartlett Dam	City limits	MNC	MNC-R	2	2	1,000	0.07	1,500	0.10
Bartlett Dam	Cave Creek	N of Bartlett Dam	MNC	MNC-R	2	2	1,000	0.07	1,500	0.10

## Street Functional Classification

## **APPENDIX B: ACCESS MANAGEMENT POLICIES**

Currently adopted access management/control policies were adopted through the 2003 Streets Master Plan. They are detailed here for reference.

General policies such as the Arterial Median Break Policy apply to all streets classified as arterials. The following streets have specific access control policies:

- Dynamite Boulevard
- Frank Lloyd Wright Boulevard
- Pima Road
- Scottsdale Road
- Via Linda
- Shea Boulevard

### **1.0 ARTERIAL MEDIAN BREAK POLICY**

#### **GENERAL**

Freeways are unsignalized and accessed only at interchanges, which do not interrupt traffic flow on the main line. They are designed for maximize mobility, while limiting accessibility. Collector roads are designed to provide access from neighborhoods to the major street network, have many access points and provide for some mobility. Arterials fall between a freeway and collector roads by having limited signals, with primary access from city streets, rather than driveways. The primary function of an arterial road is to favor mobility over access, limiting the number of disruptions to through traffic to critical locations. Arterials have a typical design capacity of 30,000 to 50,000 vehicles per day. The secondary function of an arterial is to protect neighborhoods from cut through travel. By providing little delay and low congestion arterials prevent drivers from looking for alternative routes through neighborhoods.

#### **ARTERIAL POLICY**

The following Arterial Policy applies to any major or minor arterial identified by the city's Streets Master Plan. Deviation from the Arterial Policy requires approval of the Scottsdale City Council.

##### **1. Drive Separation from Streets**

Driveways accessing an arterial shall be separated from a public street intersection by at least the following distances (Figure 1):

- A. Right in, right out drive
  - i. Upstream of (approaching) a public street - 330 feet
  - ii. Downstream of (past) a public street - 330 feet
- B. Right in only drive
  - i. Upstream of (approaching) a public street - 330 feet
  - ii. Downstream of (past) a public street - 330 feet

##### **2. Median Openings**

Parkway median openings shall be as follows:

- A. A full median opening shall be separated from another full median opening by a minimum of one-quarter mile.

B. A partial median opening, of the type shown in Figures 2 - 5, shall be separated from any other median opening by a minimum distance of one eighth of a mile.

### **3. Number of Drives**

A parcel of land shall have no more than two access locations to an arterial unless capacity on the arterial will be degraded to a lower level of service, without an additional direct access to the arterial. This shall be determined by a comprehensive traffic impact analysis with a design condition including developer attributable road and intersection improvements, as specified by the city.

### **4. Spacing Between Private Drives**

Private drive access to an arterial shall be not less than 330 feet from the nearest adjoining private drive.

### **5. Exclusive Side Street Access**

A parcel, adjoining an arterial, with alternative access via a side street or a cross access easement, shall not have direct driveway access to the arterial, unless:

A. Capacity on the arterial or side street will be degraded to a lower level of service, without direct access from the parcel to the arterial. This shall be determined by a comprehensive traffic impact analysis with a design condition, including developer attributable road and intersection improvements, as specified by the city; or,

B. Satisfactory evidence is provided to the city that the proposed allowable use of the parcel would be economically viable only with a separate entrance from the arterial, because an exclusive non-arterial access is shown to be overly circuitous for the use.

### **6. Side-Street Access Location**

On city side streets that are connected to an arterial, driveways shall be at least 330 feet from the arterial.

### **7. Residential Access**

A parcel for single-family residential use, adjoining an arterial, shall not have access to an arterial, unless there is no alternative access.

### **8. Deceleration**

Any right turn drive from an arterial shall include a deceleration lane.

### **9. Traffic Signals**

Traffic signals on an arterial should be separated by a minimum of one half mile, unless other signal spacing is approved by the city, based on a signal study. If a signal becomes warranted, at a location that has not been identified as a future signal location, a restrictive median approved by traffic engineering will be designed and installed to prevent signalization, improve the operation of the intersection and preserve mobility on the arterial.

### **10. Intersection Control**

An arterial intersection, with an overall average daily entering volume of more than 30,000 vehicles, shall be configured as follows:

#### **A. Four way intersection**

- i. With median turn bays, left turns in only from the parkway (Figure 2), or;
- ii. Signalized based on a signal study and 9, above.

B. Three way "T" intersection

- i. With median turn bay, left turn in from (Figure 3), or left hand turn out to the arterial (Figure 4), or;
- ii. With median turn bays, left turn in from, and left turn out to the arterial (Figure 5), or;
- iii. Signalized based on a signal study and 9, above.

## **11. Access by Alternative Modes of Transportation**

A. Non-motorized Access

**A development, with frontage on an arterial, shall be accessible by pedestrians and bicycles.**

B. Multiuse Path

A minimum six-foot wide sidewalk with maximum allowable buffer shall be included along each side of an arterial.

C. Bus Bay

There shall be a far side bus bay at all signalized arterial intersections.

- i. New development, fronting a city designated bus bay location, shall provide the bus bay, including shelter, trash can and bike rack. With city approval, the bay may be incorporated into an elongated deceleration lane.
- ii. New development with frontage on an arterial shall be responsible for regional bus stop signs.

D. Underpass/Overpass

- i. An arterial shall have pedestrian/multi-purpose underpasses at intervals appropriate to projected use. Pedestrian/multi-purpose underpasses shall be incorporated with drainage structures where feasible.
- ii. An arterial shall incorporate vehicle underpasses/overpasses where vehicle cross traffic demand indicates capacity on the arterial or side street will be degraded to a level of service (LOS) lower than LOS D. These shall be combined with pedestrian/multi-purpose underpasses where feasible.

## **DEFINITIONS/STANDARDS**

The following apply to the Arterial Policy.

A. Parcel - one or more lots owned or controlled by a single entity

B. Spacing - all drive or roadway spacing distances are centerline to centerline

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## **2.0 DYNAMITE BOULEVARD POLICY**

Dynamite Boulevard is classified as an arterial in Scottsdale's Streets Master Plan. Deviation from the Dynamite Boulevard Policy requires approval of the Scottsdale City Council.

### **1. Arterial Policy<sup>1</sup>**

The Arterial Policy applies to the entire length of Dynamite Boulevard within the city limits.

### **2. Driveway Minimization**

These provisions are to minimize the number of driveways to Dynamite Boulevard, being applied at specific locations and as developmental conditions warrant:

#### **A. Cross Parcel Easement**

A parcel for other than residential use, adjoining Dynamite Boulevard, shall provide a cross parcel access easement to parcels adjoining to the east and west.

#### **B. Shared Drives**

A parcel, having frontage and access only to Dynamite Boulevard shall access Dynamite Boulevard only by means of a driveway located along a side property line. The drive should be used as a shared access drive with an adjoining parcel.

### **3. Traffic Signals**

Traffic signals are currently located at Scottsdale Road and Pima Road. Additional signals, if and when warranted, shall be limited to 56<sup>th</sup> Street, 64<sup>th</sup> Street, Hayden Road, 97<sup>th</sup> Street, 103<sup>rd</sup> OR 108<sup>th</sup> Street, Alma School Parkway, 118<sup>th</sup> Street, 128<sup>th</sup> Street, and 136<sup>th</sup> Street.

### **4. Access by Alternative Modes of Transportation**

#### **A. Multiuse Trail**

There shall be a multiuse trail along at least one side of Dynamite Boulevard, between Pima Freeway and Stagecoach Pass connected by underpasses as indicated by demand and connected to the powerline corridor and all other multi-use paths.

#### **B. Underpass**

There shall be multi-purpose grade separated crossings to allow for the safe free flow of pedestrian, bicycle, skate and other non-motorized travel in the vicinity of the powerline corridor paths and other locations as demand and safety dictate.

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## **3.0 FRANK LLOYD WRIGHT BOULEVARD POLICY**

Applies only to Frank Lloyd Wright Boulevard (FLWB) from Scottsdale Road east and south to Shea Boulevard. Deviation from the Frank Lloyd Wright Median Break Policy requires approval of the Scottsdale City Council.

### **BACKGROUND**

Arterials fall between a freeway and collector roads by having limited signals, with primary access from city streets, rather than driveways. The primary function of an arterial road is to

favor mobility over access, limiting the number of disruptions to through traffic to critical locations. Arterials have a typical design capacity of 30,000 to 50,000 vehicles per day. The secondary function of an arterial is to protect neighborhoods from cut through travel. By providing little delay and low congestion arterials prevent drivers from looking for alternative routes through neighborhoods. If the capacity of an arterial is compromised and/or restricted traffic congestion will increase. As delay increased on the major roads drivers will inevitably look to the lower classified residential roads for alternative routes. Therefore, in order to protect neighborhoods from cut through traffic the primary function of the arterial roads must also be protected.

#### **1. Major Arterial**

Frank Lloyd Wright Boulevard (FLWB) is classified as a major arterial in Scottsdale's General Plan and shall strictly adhere to the access restrictions of the Arterial Road Policy.

#### **2. Driveway Minimization**

These provisions are to minimize the number of driveways to FLWB, being applied as specific locations and developmental conditions warrant:

##### **A. Cross Parcel Easement**

A parcel for other than residential use, adjoining FLWB, should provide a cross parcel access easement to parcels adjoining to the east and west.

##### **B. Shared Drives**

A parcel, having frontage and access only to FLWB, should access FLWB by means of a driveway located along a side property line. The drive should be used as a shared access drive with an adjoining parcel.

#### **3. Traffic Signals**

Traffic signals are currently located at Scottsdale Road, the Promenade, 76<sup>th</sup> Street, Greenway-Hayden Loop, Hayden Road, Pima Freeway, 90<sup>th</sup> Street, 92<sup>nd</sup> Street, Thompson Peak Parkway, Raintree Drive, 100<sup>th</sup> Street, Cactus Road, Altadena Drive, Via Linda and Shea Boulevard. No additional signals shall be located along the roadway. If a signal becomes warranted, at a location that is not currently signalized a restrictive median will be designed and installed to prevent signalization, improve the operation of the intersection and preserve mobility on the arterial.

#### **4. Access by Alternative Modes of Transportation**

##### **A. Multiuse Trail**

There shall be a multiuse trail along the at least one side of FLWB from Scottsdale Road and Shea Boulevard connected by underpasses as indicated by demand and connected to the power line corridor multi-use path, the Camelback Walk path and to the Central Arizona Project Corridor for future path connections.

##### **B. Park and Ride Lot**

As development warrants, there should be park and ride lots along FLWB near Scottsdale Road and near Via Linda.

##### **C. Underpass**

There shall be multi-purpose grade separated crossings to allow for the safe free flow of pedestrian, bicycle, skate and other non-motorized travel in the vicinity of Scottsdale Road, Hayden Road, Thompson Peak Parkway, Cactus Road, Shea Boulevard and other locations as determined by need.

## **4.0 PIMA ROAD POLICY**

*Applies only to Pima Road from the Pima Freeway to Stagecoach Pass. Deviation from the Pima Road Policy requires approval of the Scottsdale City Council.*

### **1. Arterial Policy**

The Arterial Policy applies to Pima Road from the Pima Freeway north to Stagecoach Pass.

### **2. Driveway Minimization**

These provisions are to minimize the number of driveways to Pima Road, being applied at specific locations and as developmental conditions warrant:

#### **A. Cross Parcel Easement**

A parcel for other than residential use, adjoining Pima Road, should provide a cross parcel access easement to parcels adjoining to the east and west.

#### **B. Shared Drives**

A parcel, having frontage and access only to a parkway, should access the parkway by means of a driveway located along a side property line. The drive should be used as a shared access drive with an adjoining parcel.

### **3. Traffic Signals**

Traffic signals are currently located at Pima Freeway, Downing Olsen, Thompson Peak Parkway, Pinnacle Peak Road, Happy Valley Road, and Dynamite Boulevard. Additional signals, if and when warranted, shall be limited to Union Hills Drive, Hualapai Drive, Los Gatos, Yearling Road OR Desert Highlands Drive, Dixileta Drive, Lone Mountain Road, Westland Drive, and Stagecoach Pass. Within one month of the Signal at Union Hills being activated, the signal at Downing Olsen is to be removed and access should be restricted to ensure that safety and efficiency is maintained.

### **4. Access by Alternative Modes of Transportation**

#### **A. Multiuse Trail**

There shall be a multiuse trail along at least one side of Pima Road, between Pima Freeway and Stagecoach Pass connected by underpasses as indicated by demand and connected to the both power-line corridor multi-use paths.

#### **B. Park and Ride Lot**

As development warrants, there should be a park and ride lot along Pima Road in the vicinity of the Pima Freeway.

#### **C. Underpass**

There shall be multi-purpose underpasses to allow for the safe free flow of pedestrian, bicycle, skate and other non-motorized travel in the vicinity of the power-line corridor paths, Westland Drive and other locations as demand and safety dictate.

## **5.0 SCOTTSDALE ROAD POLICY**

*Applies only to Scottsdale Road from Frank Lloyd Wright Boulevard north to Carefree Highway. Deviation from the Scottsdale Road Policy requires approval of the Scottsdale City Council.*

### **1. Arterial Policy**

The Arterial Policy applies to Scottsdale Road from Frank Lloyd Wright Boulevard north to Carefree Highway.

### **2. Driveway Minimization**

These provisions are to minimize the number of driveways to Scottsdale Road, being applied as specific locations and developmental conditions warrant:

#### **A. Cross Parcel Easement**

A parcel for other than residential use, adjoining Scottsdale, should provide a cross parcel access easement to parcels adjoining to the east and west.

#### **B. Shared Drives**

A parcel, having frontage and access only to a parkway, should access the parkway by means of a driveway located along a side property line. The drive should be used as a shared access drive with an adjoining parcel.

### **3. Traffic Signals**

Traffic signals are currently located at FLW, Dana Suites, Princess Drive, Mayo Boulevard, Thompson Peak Parkway, Greyhawk Drive, Pinnacle Peak Road, Jomax Road, Dynamite Boulevard, Lone Mountain Road, Dove Valley and Carefree Highway. Additional signals, if and when warranted, shall be limited to Pima Freeway, Deer Valley Road, Williams Drive, Happy Valley Road, Dixileta Drive, Ashler Hills, and Westland Drive.

### **4. Access by Alternative Modes of Transportation**

#### **A. Multiuse Trail**

There shall be a multiuse trail along the both side of Scottsdale Road, between FLW and CFH connected by underpasses as indicated by demand and connected to the both power-line corridor multi-use paths.

#### **B. Park and Ride Lot**

As development warrants, there should be a park and ride lots along Scottsdale Road in the vicinity of Mayo Boulevard, Pinnacle Peak Road and Westland Drive.

#### **C. Underpass**

There shall be multi-purpose underpasses to allow for the safe free flow of pedestrian, bicycle, skate and other non-motorized travel in the vicinity of Mayo Boulevard, Hualapai Drive, Williams Drive, Happy Valley Road and Westland Drive and other locations as determined by need.

## **6.0 VIA LINDA POLICY**

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*Applies only to Via Linda from 90th Street to 136th Street. Deviation from the Via Linda Policy requires approval of the Transportation Commission.*

## BACKGROUND

Arterials fall between a freeway and collector roads by having limited signals, with primary access from city streets, rather than driveways. The primary function of an arterial road is to favor mobility over access, limiting the number of disruptions to through traffic to critical locations. Arterials have a design capacity of 30,000 to 50,000 vehicles per day. The secondary function of an arterial is to protect neighborhoods from cut through travel. By providing little delay and low congestion arterials prevent drivers from looking for alternative routes through neighborhoods. If the capacity of an arterial is compromised and/or restricted traffic congestion will increase. As delay increased on the major roads drivers will inevitably look to the lower classified residential roads for alternative routes. Therefore, in order to protect neighborhoods from cut through traffic the primary function of the arterial roads must also be protected.

### 1. Major Arterial

Via Linda is classified as a major arterial in Scottsdale's General Plan and shall strictly adhere to the access restrictions of the Arterial Road Policy.

### 2. Driveway Minimization

These provisions are to minimize the number of driveways to Via Linda, being applied as specific locations and developmental conditions warrant:

#### A. Cross Parcel Easement

A parcel for other than residential use, adjoining Via Linda, should provide a cross parcel access easement to parcels adjoining to the east and west.

#### B. Shared Drives

A parcel, having frontage and access only to Via Linda, should access the parkway by means of a driveway located along a side property line. The drive should be used as a shared access drive with an adjoining parcel.

### 3. Traffic Signals

Traffic signals are currently located at 90th Street, 91st Street, 96th Street, Mountain View Road, 104th Street, Shea Boulevard, Frank Lloyd Wright Boulevard, and 124th Street. Additional signals, if and when warranted, shall be limited to 110th Street, 118th Street, 128th Street, 132nd Street, and 136th Street. If a signal becomes warranted, at a location that has not been identified as a future signal location, a restrictive median will be installed to prevent signalization, improve the operation of the intersection and preserve mobility on the arterial.

### 4. Access by Alternative Modes of Transportation

#### A. Multiuse Trail

There shall be a multiuse trail along the at least one side of Via Linda from 90th Street to 136th Street connected by underpasses as indicated by demand and connected to the power-line corridor multi-use path, the Camelback Walk path, the McDowell Mountain Preserve trailheads and to the Central Arizona Project Corridor for future path connections.

#### B. Underpass

There shall be multi-purpose grade separated crossings to allow for the safe free flow of pedestrian, bicycle, skate and other non-motorized travel in the vicinity of 102nd Street, Shea Boulevard, Frank Lloyd Wright, the CAP Corridor, 120th Street, 126th Street, 136th Street and other locations as determined by need.

## **7.0 SHEA BOULEVARD POLICY (EXPRESSWAY POLICY)**

City of Scottsdale Transportation Commission, Adopted January 5, 1995 (As of the adoption date of this policy, Shea Boulevard, from Pima Road east to the city limits, is the only expressway in the city's General Plan. The expressway classification was merged into the Arterial Classification in the Streets Master Plan, this expressway policy still applies as defined to Shea Blvd.)

### **GENERAL**

*A freeway is unsignalized and accessed only at interchanges. A major arterial is signalized, and often accessed by numerous direct driveways. An expressway falls between a freeway and a major arterial, having limited signals, with primary access from city streets, rather than driveways. An expressway has the capacity to carry 50,000 vehicles per day at level of Service C.*

### **EXPRESSWAY POLICY**

The following General Expressway Policy applies to any expressway in the city's Streets Master Plan. Deviation from the General Expressway Policy requires approval of the Transportation Commission.

#### **1. Drive Separation from Streets**

Driveways accessing an expressway shall be separated from a public street intersection by at least the following distances (Figure 1):

- A. Right in, right out drive
  - i. Upstream of (approaching) a public street \_ 660 feet
  - ii. Downstream of (past) a public street \_ 330 feet
- B. Right in only drive
  - i. Upstream of (approaching) a public street \_ 330 feet
  - ii. Downstream of (past) a public street \_ 330 feet

#### **2. Median Openings**

Expressway median openings shall be as follows:

- A. A full median opening shall be separated from another full median opening by one mile.
- B. A partial median opening, of the type shown in Figures 2 \_ 5, shall be separated from any other median opening by a minimum distance of one quarter of a mile.

#### **3. Number of Drives**

A parcel of land shall have no more than one access location to an expressway unless capacity on the expressway will be degraded to a lower level of service, without an additional direct access to the expressway. This shall be determined by a comprehensive traffic impact analysis with a design condition including developer attributable road and intersection improvements, as specified by the city.

#### **4. Spacing Between Private Drives**

Private drive access to an expressway shall be not less than 660 feet from the nearest adjoining private drive.

#### **5. Exclusive Side Street Access**

A parcel, adjoining an expressway, with access to another side street, shall have public access exclusively to the side street, unless:

- A. Capacity on the expressway or side street will be degraded to a lower level of service, without direct access from the parcel to the expressway. This shall be determined by a comprehensive traffic impact analysis with a design condition, including developer attributable road and intersection improvements, as specified by the city; or,
- B. Satisfactory evidence is provided to the city that the proposed allowable use of the parcel would be economically viable only with a separate entrance from the expressway, because an exclusive non expressway access is shown to be overly circuitous for the use.

## **6. Side Street Access Location**

On city side streets that are connected to an expressway, driveways shall be at least 330 feet from the expressway.

## **7. Residential Access**

A parcel for single family residential use, adjoining an expressway, shall not have access to an expressway, unless there is no alternative access.

## **8. Deceleration Lane**

Any right turn drive from an expressway shall include a deceleration lane.

## **9. Traffic Signals**

Traffic signals on an expressway should be separated by one mile, unless other signal spacing is approved by the city, based on a signal study.

## **10. Intersection Control**

An expressway intersection, with an overall average daily entering volume of more than 30,000 vehicles, shall be configured as follows:

- A. Four way intersection
  - i. With median turn bays, left turns in only from the expressway (Figure 2), or;
  - ii. Signalized pursuant to 9, above.
- B. Three way "T" intersection
  - i. With median turn bay, left turn in from (Figure 3), or left hand turn out to the expressway (Figure 4), or;
  - ii. With median turn bays, left turn in from, and left turn out to the expressway (Figure 5), or;
  - iii. Signalized pursuant to 9, above.

## **11. Access by Alternative Modes of Transportation**

### **A. Non-motorized Access**

A development, with frontage on an expressway, shall be accessible by pedestrians and bicycles.

### **B. Multiuse Path**

A ten foot wide multiuse path shall be included along each side of an expressway.

### **C. Bus Bay**

There shall be a far side bus bay at all signalized expressway intersections.

- i. New development, fronting a city designated bus bay location, shall provide the bus bay, including shelter, trash can and bike rack. With city approval, the bay may be incorporated into an elongated deceleration lane.
- ii. New development with frontage on an expressway shall be responsible for regional bus stop signs.

#### D. Underpass

An expressway shall have pedestrian/ multi-purpose underpasses at intervals appropriate to projected use. Underpasses shall be incorporated with drainage structures where feasible.

#### E. Park and Ride Lot

Park and Ride lots shall be located in convenient proximity to an expressway, with size and frequency appropriate to projected area demand.

### DEFINITIONS/STANDARDS

The following apply to the Expressway Policy.

A. Parcel - one or more lots owned or controlled by a single entity

B. Spacing - all drive or roadway spacing distances are centerline to centerline

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## 8.0 SHEA BOULEVARD POLICY

*Applies only to Shea Boulevard from Pima Road east to the city limits. Deviation from the Shea Boulevard Policy requires approval of the Transportation Commission.*

### 1. Expressway Policy<sup>1</sup>

The Expressway Policy applies to Shea Boulevard, from Pima Road east to the city limits.

### 2. Driveway Minimization

These provisions are to minimize the number of driveways to Shea Boulevard, being applied as specific locations and developmental conditions warrant:

#### A. Cross Parcel Easement

A parcel for other than residential use, adjoining Shea Boulevard, should provide a cross parcel access easement to parcels adjoining to the east and west.

#### B. Shared Drives

A parcel, having frontage and access only to an expressway, should access the expressway by means of a driveway located along a side property line. The drive should be used as a shared access drive with an adjoining parcel.

### 3. Traffic Signals

Traffic signals are currently located at 90th Street, 92nd Street, 96th Street, Via Linda (106th Street), 110th Street, Frank Lloyd Wright Boulevard (114th Street), and 124th Street. Additional signals, when warranted, shall be limited to 100th Street, 120th Street, 130th Street, 134th Street, 136th Street, and 142nd Street.

### 4. Median Openings

There shall be no new median openings between Pima Road and 124th Street. For the area between 124th Street east to the county line, there shall be no additional median openings beyond those contained in the construction plans approved in city project #S1707.

### 5. Left In Only Median Openings

The 89th Place, 93rd Street and 116th Street median openings shall be reconfigured to be right in, right out and left in from Shea Boulevard. Left turns out to Shea Boulevard shall be discontinued.

### 6. Access by Alternative Modes of Transportation



A. Multiuse Trail

There shall be a multiuse trail along the south side of Shea Boulevard, between Pima Road and the 114th Street underpass, and along the north side of Shea Boulevard from the 114th Street underpass to the 136th Street underpass.

B. Park and Ride Lot

As development warrants, there should be a park and ride lot in the vicinity of Shea Boulevard and 124th Street and another in the vicinity of 136th Street. These are in addition to the Mustang Transit Center and other transit accommodations in the City of Scottsdale Transit Plan.

C. Underpass

There shall be a multi-purpose underpass in the vicinity of 124th Street.

## **DEFINITIONS/STANDARDS**

The following apply to the Shea Boulevard Policy.

A. Parcel one or more lots owned or controlled by a single entity

B. Spacing all drive or roadway spacing distances are centerline to centerline

## APPENDIX C: LOCAL AREA INFRASTRUCTURE PLAN MAPS

